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Original Articles.

ROENTGEN RAY AND TUBERCULOSIS IN INFANTS AND CHILDREN.

A SUMMARY OF SEVENTY-EIGHT CASES.

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It is an obvious fact that in all scientific investigations proceeding over a period of years the pendulum of inquiry swings gradually across the entire field and now one phase of the subject and then another becomes the centre for more detailed consideration.

No exception to this appears in the study of tuberculosis. Not so long ago the adult was the one on whom attention was bestowed. Of late, however, interest is changing, and present day ideas may be summed up in the words of Griffin, who says: "If, therefore, tuberculosis practically always starts in childhood, as we must admit it does by the evidence given us by competent observers, the way to eradicate it is not by sanatorium care of adults, but by preventive care in childhood."

Preventive care of any individual must of necessity rest on methods of procedure which will indicate that such care is necessary in a given case.

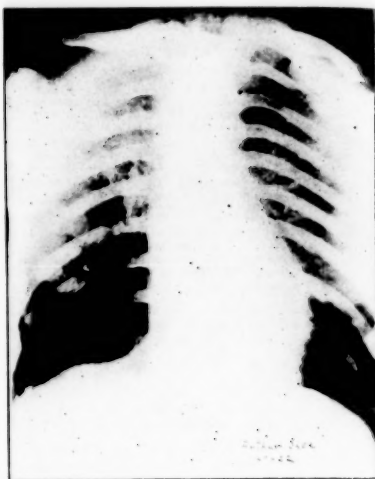
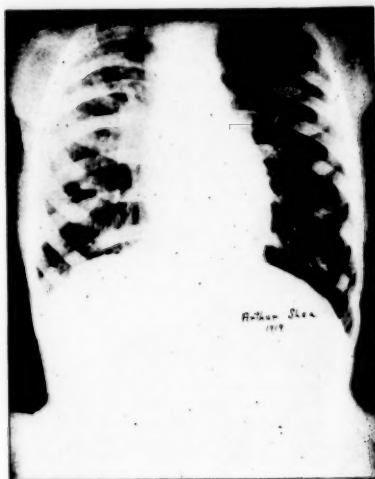
Methods of procedure for the diagnosis of tuberculosis in infancy and childhood are well established and widely used. These methods consist of a careful history, an equally thorough physical examination, roentgenograms and laboratory tests. He is the best diagnostician who will rely on no one finding, save positive sputum, but will correlate all methods to form a correct diagnosis.

Apparently, however, even with all these careful methods of precision in diagnosis, a more nearly correct estimate of the clinical types of tuberculosis in childhood has not been made until within the past year.

Early in 1921 the present writers offered a statistical study² of forty-four infants and children at the Boston Consumptives' Hospital. The purpose of this study was to correlate roentgen ray findings with clinical tests and clinical manifestations of tuberculosis as they appeared in infancy and childhood.

Summarizing these cases, we concluded:

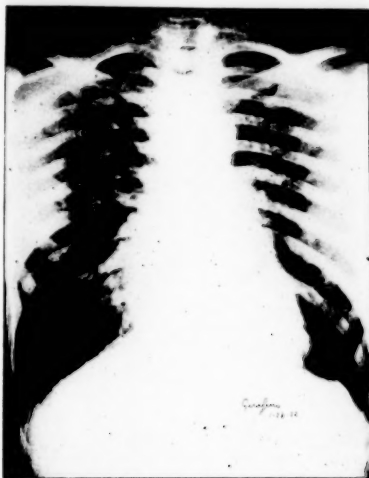
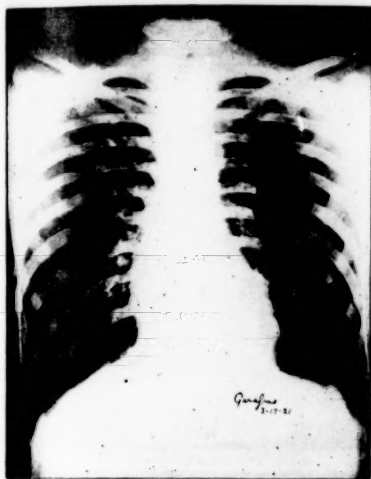
- "1. (a) The Von Pirquet and intracutaneous skin reactions are reliable guides to infection with tubercle bacilli, and the number of positive reactions increases from infancy up through childhood, over ten years of age, all patients reacting. (b) In twenty-six of thirty-six positive skin reactions the roentgen ray disclosed the site of infection to be intrathoracic.
- "2. D'Espine's sign, as a clinical index of tuberculosis of the bronchial lymph nodes, is of relatively little value, being elicited only eleven



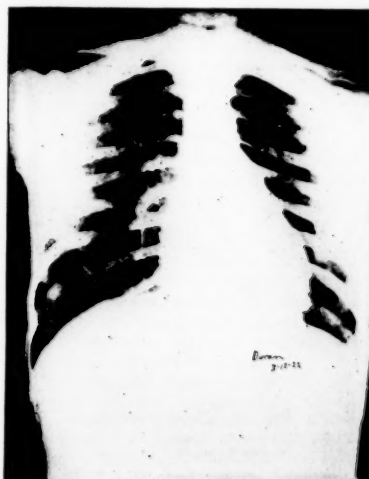
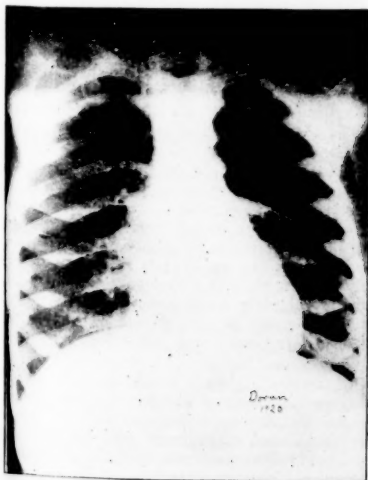
Case 1. Boy, now 14 years of age. Excellent clinical condition. Positive sputum. Steadily progressive lung pathology similar to adult type.



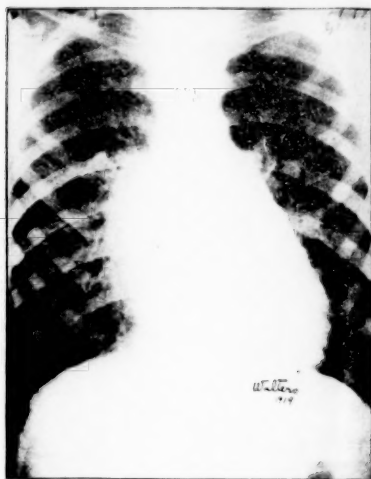
Case 2. Boy, now 10 years of age. Clinically positive for the past four years. Positive sputum. Marked progression of lesions during past year, with extreme prostration of patient with typical adult symptoms.



Case 3. Boy, now 12 years old. Negative from standpoint of symptomatology and physical examination. Discharged from hospital. Serial plates show thickening of hilus shadow and some progression toward periphery.



Case 4. Boy, now 10 years of age. Clinically negative. Serial roentgenograms show clearing in right base and calcification in right hilus region.



Case 5. Boy, now 10 years of age. Serial study shows apparent partial clearing of pulmonary lesions and development of cardiac involvement.

times, as against roentgen ray evidence of glandular enlargement in twenty-eight cases.

"3. Three cases of positive sputum were found in fourteen diagnoses of chronic pulmonary tuberculosis.

"4. Fourteen cases of chronic pulmonary tuberculosis of the adult type were found. This suggests that the so-called 'phthisis' is more common in childhood than has been stated by writers of textbooks.

"5. Fifteen cases, negative clinically, showed definite roentgen ray signs of marked structural changes consistent with tuberculous infection. This raises the question as to whether these children are to be regarded as more likely to develop clinical tuberculosis, and should thus be watched carefully and roentgenographed at fairly frequent intervals."

Feeling that a new line of attack on the questions concerning tuberculosis in children has been opened by these studies, we have continued our investigations and now add thirty-four cases to those previously reported.

In the light of time and other investigations our corroborative finding relative to the value of Von Pirquet and intracutaneous tuberculin tests seems to be amply proved. Therefore, in our new series of cases we have omitted these data.

Also, a further clinical discussion of the D'Espine sign seems unnecessary, accepting the logical conclusion that the roentgen ray is the best diagnostic means to determine the nature and extent of tracheo-bronchial lymph node involvement.

Our chief points for present discussion deal with: (1) The prevalence, in our group of cases of chronic pulmonary tuberculosis in infants and children; (2) a comparative consideration of roentgen ray findings and clinical diagnosis; (3) presentation of a few cases emphasizing the value of serial roentgenography in preventive work among children.

CHRONIC PULMONARY TYPES IN CHILDREN.

With the new interest being given to a study of types and clinical progress of tuberculosis in childhood, we naturally come to the question concerning the prevalence of chronic pulmonary forms. Are these forms more common than we have been led to believe?

This is certainly a fair question, and an important one, for if the child can, and does, have chronic, slowly progressive types of tuberculosis, our needs for prophylactic and sanatorium care of suspected and frank cases are imperative. If we can apply methods of treatment early enough, then, it is logical to assume we can carry more children through a clinically healthy adolescence and, by the effects of early training, insure to them a reasonably long and useful adult life.

One writer, Griffin¹, would estimate 20,000 definitely tuberculous children in the country with a pitifully small number of sanatoria to care for them. Fishberg² says he has seen scarcely twelve cases of chronic pulmonary tuberculosis in several thousand children.

Apparently between these wide extremes there is a conservative middle estimate. Appar-

ently, too, this conservative estimate is much larger than medical men have generally conceived.

Textbooks on diseases occurring in infancy and childhood lay but little emphasis on the incidence of chronic pulmonary tuberculosis. Bone and gland tuberculosis are said to take first place¹, and the general impression is given that the chronically progressive lung lesions are sufficiently rare to need but little stressing.

Only within a short while have observers begun to assert more often the widespread prevalence of pulmonary types in childhood.

In our previous study we noted fourteen cases of chronic pulmonary tuberculosis in forty-four children under fourteen years of age, seven of these being in the age groups under ten years and two under six years of age.

Bringing this series to date by adding thirty-four cases, we have found six more with chronic pulmonary tuberculosis, three under ten years of age. In addition to these six on whom definite diagnosis was made, three more patients were placed in the questionable class from clinical manifestations.

Three of the above cases were found to have positive sputum. Other diagnoses were made on the basis of positive findings by methods of procedure already mentioned, *i. e.*, clinical history, physical examination and roentgen ray. The roentgen ray was corroborative in all cases and showed characteristic and well defined changes in the lung fields, ranging from hilus and peribronchial thickening to infiltration and consolidation.

In the face of these additional figures we again feel justified in the assumption that chronic pulmonary tuberculosis occurs in children more often than has been stated and sufficiently often to deserve more attention than has heretofore been given to it.

ROENTGEN RAY AND CLINICAL FINDINGS.

In an attempt to emphasize the increasingly practical use of the roentgen ray as a diagnostic aid, we noted in our previous study fifteen cases in which the physical findings were negative, while the roentgenogram showed structural changes within the lung fields consistent with pathology caused by the tubercle bacillus.

With this point we enter a field of controversy, for with the attention of clinicians and roentgenologists newly focused on a correlation of the types of lesions and clinical findings in children, there is some discussion as to what is a real norm with which can be compared roentgenograms of suspected cases.

It is probably true that an absolute norm can be found only with difficulty, if at all, yet with the work at its present status, we feel justified in assuming certain changes in the lung markings as consistent with tuberculosis if like appearing changes, and no others, occur in cases of well proven tuberculous disease in children.

Only by adhering to certain standards of diagnosis can we assume to ourselves an accuracy of reasoning which can be regarded as such until definitely proved fallacious.

Lest this attitude be misunderstood, we reiterate the absolute necessity of correlating clinical and roentgen ray findings, and would, by no means, advocate the making of a positive diagnosis on the basis of the roentgen ray alone, giving the benefit of the doubt to the patient in each case where symptomatology and physical examination are entirely negative.

However, we do feel that differences of opinion can be settled only by constant observations of children who show definite structural lung changes by roentgen ray with and without clinical signs and symptoms.

In our new series we have found eight cases with changes in the lung fields consistent with tuberculosis from the standpoint of roentgen ray, but negative clinically. We believe it is fair to assume that these children do have demonstrable sites of infection with tubercle bacilli, and because of this should be traced along through childhood and roentgenographed at intervals to note progression or retrogression of so-called positive lung markings. This is one method of preventive work under our present day conception of prophylaxis.

SERIAL ROENTGENOGRAPHY.

Following the lines of study just suggested we have endeavored to add new data to cases previously reported.

As already stated in our former series, we found fifteen cases with characteristic lung field markings on the roentgenogram, but clinically negative for tuberculosis.

During the year's interval ten of these children have been discharged from the hospital clinically well. We have endeavored to follow up these ten through the Out-Patient Department. Only five have been found and returned for re-examination. With the five still remaining in the hospital we thus have ten cases in this class of children on whom serial roentgenograms have been made.

Of the ten cases we found that five showed definite changes in the roentgenograms, all of these changes being consistent with progression of the pulmonary lesion. Two of the five showed cardiac shadows pointing toward the presence of heart involvement.

Although the number of cases here reported is small, we feel that the value of their serial study is real and that the prophylactic principle involved should receive more widespread adoption.

The accompanying cuts of serial roentgenograms are of two types of cases: (1) Two clinically positive cases in which very definite progressive pulmonary involvement has taken place over a period of one to three years; and (2) three cases which are regarded as clinically

negative, yet have shown changes in lung markings by roentgen ray. The developed cardiac lesion is well shown in one case.

SUMMARY AND CONCLUSIONS.

We have presented a supplementary group of thirty-four infants and children, studied from the standpoint of correlating roentgen ray and clinical findings. These thirty-four cases are added to forty-four previously reported. From this new group and total of seventy-eight cases we have found the following:

1. A complete total of twenty cases of definite chronic pulmonary tuberculosis in seventy-eight children under fourteen years of age, or twenty-four plus per cent. Ten, or fifty per cent. of these cases were in children under ten years of age.

In spite of the apparent concentration of tuberculous cases at the Boston Consumptives' Hospital we believe this large number of positive findings points to more widespread incidence of pulmonary tuberculosis in children than has yet been sufficiently emphasized.

The roentgen ray was of definite help in determining site, extent and type of lesion in each of the positive cases.

2. Eight patients were examined in whose lung fields the roentgenogram showed typical markings consistent with pathology caused by tubercle bacilli. These cases were negative clinically. Inasmuch as the prophylaxis of tuberculosis is more and more being begun in childhood, the roentgen ray evidence of pulmonary involvement may safely be taken as a warning, and certain positive cases should receive more detailed attention and treated along preventive lines.

3. Ten cases from our old series were re-examined by roentgen ray. These cases were clinically negative, but had shown positive lung field markings in previous roentgenograms.

Five from these ten showed changes consistent with progression of the pulmonary condition; two showed development of cardiac lesions.

From these we conclude that serial roentgenograms should become a routine part of methods of procedure in the diagnosis and preventive treatment of tuberculosis in infants and children.

130 Marlborough Street.

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INTERSTITIAL PREGNANCY, WITH REPORT OF A CASE OPERATED BEFORE RUPTURE.

By G. A. Moore, M.D., F.A.C.S., BROCKTON, MASS.

GESTATION within the cornual portion of the tube was first recognized as a pathological entity about two centuries ago. All reported cases up to 1893 were observed upon the autopsy table. If the diagnoses were made or suspected before or after rupture in the early days of surgery, no mention of this fact has been found in the literature by the writer. After rupture, the sudden alarming symptoms of shock and hemorrhage which intervened were treated expectantly with the result of 100 per cent. mortality.

The year 1893 marks a new era in the treatment of this condition, when Traub¹ operated on a case after rupture. A supravaginal hysterectomy was done with recovery.

Few surgical lesions of the genital tract in women are of rarer occurrence. The first case observed by an American author was reported by Fitz² in 1875, who found 18 cases in the literature up to that time. Ten years later Simon³ stated that he could find but nine cases of true interstitial pregnancy in the literature, and nine doubtful.

In 1896 Rosenthal⁴ studied 1324 ectopic pregnancies of all types and found 40 of them to be undoubted interstitials, an occurrence of 3 per cent. Werth⁵ and Weinbrenner⁶, who studied this subject at about the same time, questioned the high percentage of cases found by Rosenthal.

The most exhaustive study of interstitial pregnancy to date was made by Waegeli⁷ in 1914. After a careful study of records and available specimens, he could accept but 53 of the 150 cases he found reported. He reported two cases, making a total of 55 cases up to that time. Up to the time his article was written (1914), there were but 11 reported cases operated upon before rupture occurred.

Of 304 ectopic pregnancies treated at Johns Hopkins Hospital, and reported by Wynne⁸ in 1918, there were but two accepted by the pathologists as true cornual, seven tenths per cent. He reported a total of 1547 ectopic pregnancies of all types, of which number there were 18 interstitials, an occurrence of 1.16 per cent. From 1914 to the present time reports of 26 cases have been found in the literature by the writer, making a total, with the cases accepted by Waegeli, of 79 cases. About 20 of these came to operation before rupture.

To be classified as true interstitial pregnancy, the gestation sac must lie within the wall of the uterine cornu between the proximal end of the isthmic portion of the tube and its uterine orifice. The old definition, that the sac shall lie within the lumen of the tube, is too dogmatic. The tubal mucosa in the vicinity of the sac has been observed in but very rare instances in these cases.

In the normal uterus the interstitial portion of the tube is about 1 cm. long by 1 to 1.5 mm. in diameter. It forms an arc, convex upward and forward. The folds of mucosa within this portion of the tube are fewer in number and not as deep as those found in the isthmic portion. In occasional cases crypts and rudimentary canals have been found opening into the lumen. The epithelial lining does not differ from that found in the isthmic portion of the tube. It is cylindrical with vibrating cilia.

Many theories have been advanced as a cause of this interesting condition. They can well be classed under two heads: (1) Anatomical, and (2) Pathological. Of the anatomical causes, a rudimentary canal of Gärtner as suggested by Pfaff,⁹ or of Wolff, mentioned by Leopold,¹⁰ deserve consideration. Frankl's¹¹ statement, that diverticulæ as a cause are of utmost importance, may, with further study, receive more general acceptance. Congenital atresia may be a causative factor, especially in cases where the passage of the ovum to the interstitial portion of the tube has been delayed by adhesions, inflammations, etc., permitting abnormal development.

Breschet¹² advanced the theory that the uterine ostium of the tube became closed by inflammation during the passage of the ovum through the tube. The ovum then penetrates into the wall of the uterus through a vein of the tube.

Hennig¹³ described a sphincter muscle about the uterine orifice of the tube. In cases where the ovum was delayed in its passage through the tube, contractions of the sphincter closed the orifice of the tube, leaving the ovum in the interstitial portion. Inflammatory processes, although rare in this situation, may well result in atresias, angulations, etc., which impede the passage of the ovum. Development of the ovum would finally result in its arrest in the interstitial portion of the tube.

Microscopic study of specimens of interstitial pregnancy, with a view to ascertaining the cause, has excited little interest in the past among students of this subject. We must admit, as did Velpeau in 1831, that the cause is still unknown.

Morbid anatomy and clinical symptoms of the disease are dependent to a great extent upon the site of lodgment and direction of growth of the ovum. Hypertrophy and hyperplasia of the parietal wall of the uterus about the gestation sac, coincident with the development of the sac, are the factors which determine the gross appearance of the fundus as well as the abnormal relationship of the appendages.

If the ovum lodges near the uterine ostium of the tube, development of the sac does not result in marked asymmetry of the fundus during the early weeks. In cases where the sac is situated near the periphery of the uterus, marked asymmetry of the fundus is an early symptom. Growth of the sac undoubtedly occurs in the direction of least resistance; the thickness of the uterine wall over the sac deter-

mines the direction in which growth will take place.

In the former group of cases with implantation near the uterine cavity, development is toward the cavity. It is believed by many writers that a certain percentage of these cases rupture into the uterine cavity, and are followed by a typical abortion. A few cases have been reported where, on doing a curettage for abortion, the curette has entered a cavity in a cornu of the uterus. It is thought by some that in a few cases following rupture the placenta becomes reimplanted in the uterine cavity, and pregnancy continues to term. In recent years a few cases have been reported of the development of the sac on the anterior or posterior side of the uterus near the center of the fundus. Of especial interest are a case of this type reported by Pfaff after rupture, and one by Curtis¹⁴ before rupture. These cases would seem to confirm the theory of the ovum lodging in some diverticulum of the tube and coming to rest deep in the wall of the fundus.

In the latter group of cases, where the ovum lodges near the periphery of the uterus, development of the sac is outward and upward. Asymmetry of the fundus is an early recognizable sign, usually about the fourth to sixth week of development when the sac has attained about the size of a tangerine orange. In many cases the sign of Ruge-Simon is present: the fundus is vertical from the normal cornu upward to the gravid one, and the round ligament and tube on the gravid side are attached laterally. Rupture is practically without exception through the serosa into the general peritoneal cavity with the attendant symptoms of shock and hemorrhage of the most alarming degree. On account of the increased blood supply in the wall of the uterus, rupture of an interstitial pregnancy produces profound symptoms of shock and hemorrhage in many instances much more rapidly than rupture of a pregnancy in the isthmic portion of the tube.

The classification of interstitial pregnancy has been thoroughly discussed by Weinbrenner, Kohlmann, Lequeux and Waegli. It is a subject of more academic importance than of especial clinical value. The latter author's proposed classification is the result of a study of a great many records and museum specimens, and is based upon the site of implantation and direction of growth of the ovum:

1. Interstitial intramural or paratubal.
 - (a) Evolution against the uterine serosa.
 - (b) Evolution against the uterine cavity.
 - (c) Evolution in both directions.
2. Canalicular interstitial pregnancy.
 - (a) With outward growth and rupture into the abdomen.
 - (b) With growth toward the uterine cavity and rupture into it.
 - (c) With symmetrical growth in both directions and a possible rupture into either cavity.

Interstitial pregnancy occurs more frequently in multipara than in primipara. In 39 cases studied by Waegeli, 32 were reported to be multipara. Owing to the fact that the uterine wall is capable of greater distention than the isthmus portion of the tube, rupture occurs in a majority of cases later than in tubal pregnancy, usually about the third to sixth month. External signs, as pigmentation, enlargement of the breast, etc., are therefore frequently found. Amenorrhea is of frequent occurrence, but in a majority of cases lasts only 3 to 4 weeks, and is followed by irregular flow simulating an abortion. Lower abdominal pain on the gravid side is common. Malaise, nausea, and vertigo are frequently symptoms of impending rupture.

Siefert¹⁵ stated that no interstitial pregnancy was seen after the sixth month. This has since been disproved by a case reported by Kupferberg¹⁶ at eight months, and one by Glaesmer¹⁷ at seven months. Waegeli asserts that some patients have been known to go to term. Here again it may be stated that the amount of development before rupture occurs depends upon the site of implantation, the direction of growth of the sac and the amount of hypertrophy and elasticity of the uterine wall.

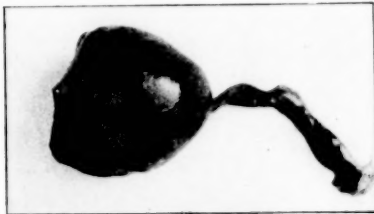


FIG. 1.—Left cornu and tube. The tumor was very tense and wall extremely thin on anterior surface.

On examination an elongated, softened cervix is first noted, then a tumor on the gravid side. In my case, to be reported, my first thought was a fibroid. The tumor extends up vertically, giving one the impression that the fundus is turned one quarter way around toward the normal side, and a straight line is formed upward from the normal tube to the peak of the tumor. In such cases the round ligament is attached laterally to the tumor, sign of Ruge-Simon, the condition found at operation in my case. Judging from reported cases, this observation is rarely made before operation. Virchow stated that the round ligament was always outside the gestation sac. As his observations were made at the autopsy table, we may infer that they were cases of longer term than many early cases of recent report. In these early cases, where a small tumor is encountered, the relations of the round ligament, adnexa and fundus are little changed.

The tumor may be painless, but is frequently tender to touch; no pedicle or line of demarca-

tion between it and the fundus can be felt. It is usually firm and tense, but in late cases fluctuation may be felt.

After rupture has occurred, it is rarely possible to palpate a tumor on account of the signs of acute peritoneal irritation. In a few cases a haematoma has formed following the initial symptoms of rupture, which have suggested the diagnosis. In most, the immediate symptoms of intraperitoneal hemorrhage dominate the picture and diagnosis of ruptured tubal pregnancy is made.

While a diagnosis of ectopic pregnancy is frequently made, with the inconclusive symptoms presented, it is hardly to be wondered at that a positive diagnosis before operation is extremely rare, if it has ever been made, and that operation before rupture is of very uncommon occurrence.

Few recent writers have made an extensive study of the pathology of interstitial pregnancy. Of those who have been interested in this phase of the subject, Waegeli's description may be accepted as the most authoritative.



FIG. 2.—Tumor bisected, with foetus and placenta in upper half.

Where a communication is found between the sac and the uterine cavity, it is invariably due to a tear in the muscular septum between the two and not the result of dilatation of the uterine orifice of the tube. In a study of 25 cases, the muscular septum between the sac and uterine cavity varied from 3 mm. to 2 cm. in thickness. There were but 10 cases up to 1914 in which a communication was found between the sac and uterine cavity, according to Waegeli. I have found none reported since.

The interstitial portion of the tube external to the fetal sac is frequently seen, but the part between the sac and uterine cavity is rarely observed. Strobaek¹⁸ reported a case in which both the proximal and distal portions of the tube were visible, and Waegeli was able to trace the tube in one of his cases throughout its entire course. It passed around one side of the sac but did not enter it. The latter case illustrates the view expressed by Frankl, that the ovum lodges in a diverticulum outside the lumen of the tube. Kuhne,¹⁹ Aschoff,²⁰ and

others believe that in most cases the fecundated ovum lodges outside the lumen of the tube.

Mortality statistics of interstitial pregnancy are to a great extent dependent upon the time elapsing between rupture and operation. Patients operated upon before rupture may be disregarded, as no deaths have been reported as yet in these cases. Expectant treatment, which was universally practiced up to 1893, resulted in 100 per cent. mortality. In most cases death resulted within the first twenty-four hours from hemorrhage and shock; rarely the patient survived the initial symptoms, and died of infection several days later.

In a series of 29 cases of operation following rupture, reported by Waegeli in 1914, there were 21 recoveries, a mortality of 27 per cent. Wynne in 1918 reported 82 operated cases with a mortality of 11.9 per cent. He does not state whether rupture had occurred in all before operation. The reports in recent years show a decreasing mortality, which is apparently due to earlier recognition of symptoms of rupture, with earlier institution of surgical measures and more efficient methods of treating hemorrhage and shock.

The treatment of interstitial pregnancy is immediately surgical, when the diagnosis is made or suspected. In most cases the presenting symptoms are those of rupture of a viscus with sudden, profuse intraperitoneal hemorrhage. A positive diagnosis has rarely been made before operation. Since surgical treatment was instituted for these cases, there have been no adherents of expectant methods as is the case in ruptured tubal pregnancy.

Transfusion during operation or immediately after in critical cases, next to arrest of the hemorrhage, is the greatest aid.

The type of operation must depend upon the individual case. The vaginal route, either by dilatation and curettage of the sac, or hysterectomy should be rejected in all cases. Curettage is a dangerous and unsurgical procedure and has been reported in but two instances. Frankl attempted this method through a diagnostic error, and followed it with a vaginal hysterectomy. Farrar²¹ opened the abdomen and found an unruptured interstitial pregnancy and then curetted from below with a hand on the sac to prevent rupture. Vaginal hysterectomy is time-consuming and in many cases a needless sacrifice. Neither method has found favor in the treatment of any type of interstitial pregnancy.

Engstrom,²² in 1896, and Lawson Tait,²³ in 1893, each reported a case treated before rupture by incision of the sac, evacuating the contents and closure. Two other cases treated by this method were reported by Wynne.

The method of choice is excision of the sac and tube on the gravid side and closure of the uterine wound. In all unruptured cases, except those operated late in pregnancy, this treatment may be adopted. Also in ruptured cases when

there is not great loss of blood or destruction of uterine tissue, excision is to be preferred.

If the patient's condition is grave as a result of shock and hemorrhage, or the uterus is crippled by the rupture, supravaginal hysterectomy is the method of choice. Bleeding can be controlled more quickly than by excision and it is attended with little shock.

Infected cases, where the patient's condition permits, should be treated by pan-hysterectomy.

In a series of 66 cases studied by Wynne, hysterectomy, either total or subtotal, was practiced in 21 cases, and in the remaining 45 excision of the sac, with or without removal of the tube and ovary on the gravid side, was done.

Of 33 cases reported by Waegeli, total hysterectomy was done in 10, supravaginal in six, and excision of the gravid horn and adnexa in 17.

CASE.—Mrs. O'H., age 27. Referred by Dr. John A. Pettey of Brockton, February 11, 1920. F. H. Married five years. Husband living and well. One child living and well, no other pregnancy. P. H. Usual children's diseases. Pneumonia twice during childhood. Peritonsillar abscess eight years ago, no other illnesses. Catamenia regular and normal until recently. Bowels normal. Never jaundiced. No urinary symptoms. P. I. For the past several months catamenia has been very profuse every other month. No dysmenorrhea. September, 1919, catamenia was excessive in amount but not prolonged. The October period was normal. In November a profuse flow began about the 28th and continued a few days in December. Flowed again about Jan. 2, 1920, very profusely and continued five days, then ceased for five days. Since that time, Jan. 12, she has flowed almost constantly, but has had no profuse flow. Walking or turning quickly in bed has caused a sharp pain in the left side of the abdomen low down. No discomfort on sitting. Considerable frequency of urination since Jan. 1; no dysuria. Bowels normal. No nausea or vomiting. She was examined by Dr. Pettey about Jan. 1, who found the uterus freely movable. Vaginal examination yesterday, Feb. 10, 1920, by Dr. Pettey, who found a mass on the left side of the uterus. He was positive this had formed since the date of last examination, Jan. 1. A tentative diagnosis of ectopic pregnancy was made by him on referring the case to me. P. E.—Well developed and nourished. Skin good color. Pupils equal and react normally. Teeth—upper false, lower in good condition. Throat normal. Heart and lungs normal. Blood pressure 130. Pulse 80. Temperature normal. Abdomen level, tympanitic throughout, no masses or tenderness except in the left lower quadrant, just above the symphysis, where a very tender mass about the size of half an egg can be felt. Vaginal examination: slight laceration of perineum and bilateral laceration of cervix. Cervix is soft and patulous. Uterus moderately enlarged, fundus tipped toward the right and extending upward

from the left side of the fundus is a firm, tender mass, about the size of a tangerine orange. This mass is definitely connected with the fundus, no line of demarcation between it and the fundus made out. Tubes and ovaries apparently normal. Diagnosis: The firm consistency of the mass, with the fact that it was definitely connected with fundus misled me into making a first diagnosis of fibroid. Irregular menstruation and pain, together with the fact that no mass was palpable on examination six weeks ago pointed toward pregnancy. As the mass seemed to be definitely a part of the uterus, a second diagnosis of interstitial pregnancy was made.

Feb. 16, 1920. Operation at the Moore Hospital. Ether, Dr. Petten; Asst., Dr. J. J. Condrick. Trendelenburg position. A five-inch median suprapubic incision. Fundus moderately enlarged, tipped far over to the right. In the left cornu of the uterus is a dark purplish, cystic mass about the size of a tangerine orange, extending upward, slightly to the left. The peak of the tumor extends up somewhat above the attachment of the left tube. Both tubes and ovaries normal. The encroachment of the tumor upon the fundus seemed to involve only the left cornu. A conservative operation was therefore decided upon. The tumor was removed by a wedge-shaped incision in the body of the uterus, the left tube being included. The uterine cavity was not opened during the operation. Incision in the uterus was closed with double No. 2 iodized gut and broad ligament sutured with continuous suture. Abdomen closed in the usual way. Convalescence was uneventful and the patient was discharged March 2, 1920.

On account of the rarity of an unruptured interstitial pregnancy, the specimen was taken to a pathologist for detailed study. It was mislaid and several months later found in such a poor state of preservation that it was of no value. A photograph was taken of the tumor on the day of operation, however, which shows a true interstitial pregnancy.

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UNRECOGNIZED FRACTURE OF SPINE.

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IX palpable fractures of the spine it has always been recognized that there existed a certain percentage of cases in which cord symptoms were absent or only temporary. There is in addition even a greater percentage of cases in which there is no diagnosis of fracture made at the time of injury or shortly subsequent. This class of case has been attracting an increasing amount of attention in recent years; increasing in direct proportion to the increase of power in x-ray machines and the more frequent use of those adventitious aids eliminating factors of error. It has been termed "Kummel's disease," since in 1895 Kummel reported five such cases, endeavoring to correlate and picture the symptoms in such a way as to facilitate diagnosis. This seems a futile effort, since the character of the lesion, its location, which must consider mobility, and the amount of muscle pull, the amount of weight-carrying function: the presence or absence of nerve-root pressure; in fact those factors which enter into the final picture must, *per se*, have so great a variation that no formula can encompass them.

The diagnosis rests on the history of indirect or direct trauma to the spine, associated with any symptom or symptoms of sufficient importance or duration to warrant an x-ray investigation, which should include a lateral as well as a stereo, and which should be of sufficient clearness to enable one to see the bodies of the vertebrae distinctly, for much of the error that has crept into these cases has been the result of guessing.

A peculiar feature of the symptomatology, as pointed out by Sever, is that symptoms may not appear for a period of several months or even years. This naturally is dependent on the extent of injury and the location and function of the vertebrae affected, as well as the vocation of the patient. It has seemed to the writer that fractures in the lower thoracic region are more likely to produce early symptoms and a greater disability, since the thoracic vertebrae, in addition to their weight-bearing function, being the point of rest from which the muscular action of the whole shoulder girdle arises, are subject to a leverage in direct proportion to the amount of that muscular effort, and as a consequence symptoms arise much more quickly than even in the lumbar region, where the muscular pull is less and the increased size of the vertebrae offset the added weight-carrying function.

The pathology in those cases of considerable duration is distinctive—a disappearance of the body of the vertebra along with the contiguous inter-vertebral discs and possibly the articular surfaces of the two adjacent vertebrae. Naturally this process is more marked on the front of the vertebrae because of the greater resistance of the denser bone constituting the neural arch.

which, with its ligaments and tendinous attachments, has less pathologic motion than the body. This process has been termed "spondylarthrosis" by Kummel, "spondylo-malacia" by Schede; but it is probably caused by the absorption of bone due to the increased mobility of that particular segment by reason of the fracture, with the associated attrition arising from the inclusion of the products of osteo-blastic activity within the joint surface itself.

It is bromidic to state that the treatment varies according to the location, character and severity of the original injury. Many cases have had no treatment whatever and are recognized only accidentally after the lapse of years. With other cases simple retention and rest in bed is sufficient. Others require the extended use of jackets and plaster casts over a considerable period of time. In other cases open operation—preferably autogenous bone transplant—is indicated. In selecting treatment one must consider, first, the amount of time which the patient may have to devote to his treatment, into which question enter the consideration of his vocation, his financial status, his number of dependents and the probable length of time of his future activity; second, the certainty or uncertainty of cure by conservative measures.

The autogenous bone splint is particularly indicated in those cases of lower thoracic or lumbar injury where the financial status of the patient precludes his devoting the long period of time necessary under conservative treatment, since his recovery is rapid, is certain, the result is permanent and there is no greater loss of mobility than by conservative methods. Also such procedure is indicated in all cases in which conservative methods do not yield relief from pain and discomfort, or where there is any progress of the lesion under rest in bed.

Case 1.—Male, 52 years old. Complains that he could not rotate his head. This has been so since his earliest recollection, but of late motion has been attended by some pain. Examination shows that he is able to rotate his head to the left only five degrees, while the rotation to the right is approximately fifteen degrees. Motion of the head on the axis is unrestricted. He denied injury but recollected that he had been told by his parents that when three years old he had fallen down a steep bank, striking his forehead on a rock at the bottom, from which he was confined to bed for some time. He has no recollection of the injury. The x-ray (Figure 1) is difficult of interpretation. It can be safely asserted that the seventh vertebra was not fractured, that the involvement of the sixth probably came as a later result of the original injury. What happened to the others is problematical. There probably was a fracture of the fourth, fifth, second, and possibly the third, but without dislocation. The body of the fifth seems to have disappeared. Nature has compensated this abnormal mobility by an extraordinary down-



FIG. 1.



FIG. 2.

ward growth of the spines of the second, third, fourth and fifth, which, overlapping, give a measure of stability. There was no involvement of any of the nerve segments and the patient was totally unconscious of his having so serious a lesion, since never having known any other condition the lack of mobility was to him normal.

Case 2.—Railroad fireman, 32 years old, 5 feet 11 inches tall, weighs 180 pounds, good physical condition and well muscled. In December, 1915, through some negligence the air was not coupled up as his train entered the east portal of the tunnel through the Cascade Mountains, which is about two miles long with a 2 per cent. grade sloping toward the west. The engine alone was unable to hold the train, which emerged from the tunnel at an estimated speed of seventy miles an hour. The fireman, at his first opportunity, jumped, rolled down the embankment, plunging into a deep pool of water, and received only a Pott's fracture of the right leg. He consulted me some three months later. Examination disclosed the fact that his right hand grip was not equal to his left; that the spine of the first dorsal vertebra was apparently out of line about one-half inch. His right arm was otherwise practically negative and his disability so slight that it had not interfered in any way with his normal range of activity. X-ray disclosed the fact that he had a vertical fracture through the middle of the body of the fourth cervical vertebra, passing down to the right side of the fifth and out through the transverse process of the sixth cervical vertebra.

These two cases illustrate the fact that the injury may be very serious with little or no disability. The first patient, having never known any condition other than that of restricted mobility, was not conscious that this was abnormal. The second patient, as the result of a severe trauma, had received a very dangerous cervical fracture which he might have noticed had it not been associated with a fracture of his right leg, but there was not sufficient disability to draw it to his attention until it was discovered by the x-ray.

Case 3.—Male, 22 years old, average muscular development. Was unloading cordwood from a cart; his horses became frightened and he was thrown to the ground, striking his back against a block of wood. Although suffering considerably, he was able to walk a mile to his home. I saw him two years later, in 1916. He stated that during this time he had suffered much, particularly in getting into and out of bed—a process usually occupying about ten minutes. He first had to roll over on his stomach, raise himself on his hands and knees, progress sideways to the edge of the bed, get one foot on the floor, then the other, and push himself into an erect position, which process was reversed on retiring. He complained that his back was stiff, that he had constant pain at about the site of

the injury, that he could not move quickly. Examination disclosed slight kyphosis over the third lumbar vertebra, accompanied by spasm of the spinous muscles. All motion was restricted and associated with pain. X-ray disclosed a fracture of the third lumbar vertebra, the body being reduced to about one-third of its usual size, with a disappearance of the intervertebral discs and the articular surface of the two contiguous vertebrae. An autogenous bone splint operation after the manner of Albee was done; patient was in bed six weeks and was discharged cured. He has worked hard since without discomfort.

Case 4.—Male, 28 years old, lineman. Was removing the wires from a telephone pole, which broke at the base and fell while he was still on it. He apparently landed on his feet, and the pole, striking him on the right shoulder, fell across his right shoulder girdle, but, being held by two wires still attached, it squeezed him without fracturing any of the bones. I saw him within an hour. He had an abrasion over his right scapula about three by four inches; he complained of some pain about the lower part of his back, but palpation showed no abnormality; knee jerks were accentuated. An x-ray was ordered to discover a fracture, if present, but was reported as negative. At his request his family physician cared for him and I did not see him again until October 29, when he came in for examination and permission to return to work. At this time there was a marked kyphosis at the level of his eleventh dorsal vertebra. He stated that he tired easily and on tiring pain appeared at this point. He had a slight Babinski in his right foot, decreased right patella reflex, exaggerated left patella reflex. There was no appreciable or constant loss of sensation to heat or cold. X-ray shows fracture of the eleventh dorsal vertebra, beginning about the middle of the base, extending upward and emerging at the base of the transverse process, with slight outward displacement of this fragment. There is considerable callus formation surrounding this. Lateral view shows characteristic lesion—a wearing away of the inferior surface, more marked anteriorly. He refused treatment and left the city shortly after.

Case 5.—Examination March 14, 1922. Male, 32 years old, painter. In April, 1921, fell about eighteen feet, striking on his back. He was moderately shaken up by the fall, but was able to return to work, and had worked steadily since, but states that when he leans over for a considerable period of time he has a sharp pain in the middle of his back. This was first noticed in September and has increased steadily. Examination discloses very little limitation of motion, but on full forward bending there is some tenderness along the middle of the thoracic vertebrae. X-ray shows fracture of the eighth thoracic vertebra with attrition of lower articular surface only.

Case 6.—Examination March 13, 1922. Male, 72 years old, tailor. While journeying to Seattle on one of the "mosquito fleet" he stepped out on deck and stood beneath the freight elevator, which, descending suddenly, struck him on the shoulders. On arrival he was sent to the Seattle General Hospital. Examination showed abrasion and redness over both shoulder blades; there was no evidence of trauma elsewhere about the body; his reflexes were normal excepting that he had a suggestion of Babinski in both feet and both knee jerks were exaggerated; there were no areas of sensory interference. On movement he complained of pain at about the middle of his lumbar spine, and an x-ray disclosed a horizontal fracture extending through the body of the third lumbar vertebra. This case, however, because of his age and the added fact that the fracture does not involve either articular surface, is being treated by apparatus and is progressing favorably.

Case 7.—Male, 21 years old. In April, 1921, while in Yokohama, Japan, employed as seaman on one of the Shipping Board steamers, he fell through an open hatch, falling forty feet, striking squarely on his chest. He was removed to a hospital, where he recovered consciousness some hours later. He lost two front teeth and received a fracture of the second metacarpal bone of the right hand. He states that he was unable to turn over, but so far as he can recollect there was no interference with either motion or sensation in his legs. Six days later he was removed to his ship and brought to the Marine Hospital in Puget Sound, where he remained six weeks. He states that after his discharge he was unable to perform any heavy work, that he also tired very easily. He further states that this feeling of weakness has been increasing and that while lying in bed his left leg becomes numb. Examination: There is a moderate deformity of the second metacarpal, right hand, with about three-eighths of an inch shortening; there is some dislocation forward and outward of the inner end of the left clavicle. There is also a diagonal deformity of the sternum from about the third to the fifth rib, running down from left to right. He has a marked backward bowing of the thoracic spine, and on being asked if he has grown shorter in stature, states that he is "shrinking;" measurement shows that he is one and three-quarter inches shorter than at the time of his physical examination in the general draft. There is a palpable deformity at the level of the ninth thoracic vertebra, with seeming backward displacement of this vertebra on the tenth. The x-ray is unusual. It shows a healed fracture of the first left rib, of the left clavicle, of the sternum and the eleventh right rib. It also shows fracture of the fifth, sixth, seventh and ninth thoracic vertebrae, with considerable loss of substance of the bodies, and a fracture of the eighth thoracic vertebra, with some loss of substance on its lower surface.

Case 8.—Male, 32 years old, laborer, of good physique and well muscled. Was clearing "rigging" out of a tree when he slipped and fell twenty feet, striking on his head. He was unconscious for twelve hours or more. On recovering consciousness he suffered from severe headaches for three or four days, which persisted in diminishing degree until disappearance three weeks after the injury. I saw him first on the 25th of March, five weeks after his accident. He complained of stiffness of the upper spine and neck and stated also that in the morning his legs are numb and he has difficulty in moving them, but as the day progresses motion becomes freer. There is no pain on walking. Examination: Pupils are equal and react equally; blood pressure, systolic 122, diastolic 84; pulse rate 70. He holds his head rigidly; there is slight lateral motion, but scarcely any antero-posteriorly. His thoracic spine is held almost as rigidly as his neck, but there is very slight motion. Sensation is interfered with chiefly on the left side from the ninth rib down, there being patchy areas of partial or total anaesthesia on the left abdomen and both legs. Reflexes on the left side are absent in the morning, but are present in slight degree in the late afternoon. The right knee jerk is increased and the right plantar reflex slightly diminished. X-ray examination shows the cervical spine to be normal, but there is some compression of the fifth and sixth thoracic vertebrae, suggestive but not fully diagnostic of fracture. A lateral picture discloses a diagonal fracture of the body of the fifth thoracic vertebra, beginning on the posterior surface at the bottom of the neural-arch, extending along the base of the insertion of the neural-arch into the articular surface above.

Cases 3, 4, 5 and 7 illustrate the point, brought out by Sever, that the lesion untreated is progressive, and that although some time may elapse between the time of injury and the first discomforts arising, yet these tend to increase both in intensity and duration. Case 8 is too recent to warrant any deductions, but it seems undoubted that the same would hold true.

Case 6, a horizontal fracture through the body without involvement of either articular surface and without pressure on the spinal cord, should heal kindly under simple retention apparatus, but the normal process may be delayed because of his age and diminished vitality. From the character of the fracture it is probable that it would take place naturally even without immobilization.

In the treatment of Cases 3, 4, 7 and 8 operative procedure is indicated, partly on the lines laid down in the discussion of treatment. Since these men are all laboring men with dependents, the duration of disability being an essential consideration, but particularly in the eighth case, because of the extent of the lesion as well as the

positive pressure symptoms, which are likely to increase; and in Case 7 because of the progressive deformity arising from the extensive injury.

Medical Progress.

PROGRESS IN TUBERCULOSIS.

By JOHN B. HAWES, 2ND, M.D., BOSTON.

ANYONE at all acquainted with the vast amount of literature which is being written and published every day on the subject of tuberculosis and its various ramifications,—clinical, sociological, administrative, scientific, etc.,—will realize that it is almost an impossible task to condense into a comparatively few words a report of progress which will do real justice to the subject. It is possible in this report, therefore, to comment but briefly on what I consider to be the more important contributions and to refer readers who care to go into more details to proper sources of information. In this particular case the proper source of information, in my opinion, is that admirable journal—*The American Review of Tuberculosis*. The articles published in this monthly journal are of the highest quality while in addition, and of perhaps greater value, are the carefully written reviews of current literature on the entire subject of tuberculosis. Anyone, therefore, desiring information on this general subject should take the volume of the *American Review of Tuberculosis* for the past year, in which he will be sure to find the material which he seeks.

DIAGNOSIS.

I do not know of any particularly striking advance which has been made on the subject of diagnosis of tuberculosis during the past year. The various x-ray enthusiasts seem to be getting less and less radical, and less and less of the opinion that they alone are the proper ones to diagnose this disease in its early stages. The majority of them have finally taken what is the only proper attitude for them to take—that the clinician and the clinical examination of the patient *must* come first, and that the x-ray must be looked upon as an adjuvant, but a most important adjuvant, in diagnosis. As a result of the war, particularly, the French observers have commented on the fact that disease of the nasal passages and accessory sinuses will often cause a secondary infection in the lung which closely resembles tuberculosis.

Webb, G. B., and Gilbert, G. B. (*Journal American Medical Association*, March 12, 1922), in an excellent article, comment on this. They believe that disease of the nose and accessory sinuses is frequently found to be the cause of the development of pulmonary bronchiectasis, often mistaken for tuberculosis, and that cure

of the former will often relieve the latter. An editorial in the *Medical Record*, August 27, 1921, comments interestingly on the work of various French physicians who describe what they call pseudo-tuberculosis, due to disease of the upper air passages.

Spicer, F. W. (*Minnesota Medicine*, December, 1920), discussing the differential diagnosis between chronic gas poisoning and pulmonary tuberculosis, believes that gas poisoning may light up an old tuberculous process even one or two years after the original attack of gassing occurred. While I would not agree with him that the gassing itself, under such circumstances, had reactivated the tuberculosis, I feel that in certain instances the chronic bronchitis, and particularly the nervous exhaustion and general debility, which so frequently have followed gassing, may be and very often are, important factors in the outbreak of previously inactive tuberculous foci.

Mendelson, R. W. (*Mil. Surgeon*, July, 1921), believes that more careful bacteriological examination would reveal many mycotic and spirochetal infections which are now diagnosed clinically and treated as tuberculosis, especially in the Southern states, and when dealing with patients coming from the Philippine Islands. Faill, C. J. C. (*Tubercle*, June, 1921), discusses the general condition of broncho-pulmonary spirochaetosis, which is easily mistaken for tuberculosis.

Swallow, Henry (*The American Review of Tuberculosis*, January, 1921), takes up in a similar vein pulmonary atelectasis as a source of confusion in the diagnosis of tuberculosis. His article is an excellent one and is of distinct practical value. There is a long list of references. Stivelman, B. (*The American Review of Tuberculosis*, January, 1921), in an article based on the study of 1700 consecutive cases, discusses the following as conditions mistaken for pulmonary tuberculosis: chronic bronchitis and emphysema, cardiac conditions, nonspecific diseases of the upper respiratory tract, neurasthenia, chronic interstitial pneumonia, bronchiectasis, chronic nontuberculous lung infections, asthma, gastric ulcer, pulmonary abscess, dysthyroidism.

Cohen, M. Solis (*New York Medical Journal*, January 22, 1921), in a valuable article, calls our attention to various points which are considered to be important in diagnosis chiefly because they have been found to be of value in the past. Among others he mentions that râles alone do not prove that tuberculosis is active. He believes that there are tubercle bacilli carriers as well as typhoid and diphtheria carriers, and that too much evidence is placed upon the signs in the lungs in making a diagnosis. In a similar article (*Boston Medical and Surgical Journal*, December 16, 1920), he takes up the differential diagnosis of tuberculosis and cardiac lesions, cancer, syphilis, hyperthyroidism, and others.

References to the tuberculin reaction in diag-

nosis are conspicuous by their absence. The complement-fixation test has been and will be a distinctly laboratory procedure. In my own experience it is a noteworthy fact that the number of patients coming to me who can send in a detailed chart as to their temperature taken various times during the day is increasing; the number of patients, however, who can present a similar chart with reference to their pulse, which I personally consider to be of greater importance than temperature, is still strikingly small. The diagnosis of tuberculosis is still based on thoroughness and painstaking attention to details, particularly with reference to the human being and not entirely to the lungs.

TREATMENT.

In the treatment of this disease, as in diagnosis, very few striking advances have been made. We are plodding along the same lines as before, rather tending to emphasize rest than exercise, although not carrying rest to the extreme that some of its ardent supporters, notably Pratt and Kinghorn, would have us. Occupational therapy is proving a boon to the tuberculosis sufferer, while postural treatment of various kinds is helping out and replacing artificial pneumothorax. Heliotherapy—sunlight treatment—and treatment with artificial light are coming to be tremendous factors in various non-pulmonary forms of this disease.

Dr. D. A. Stewart of the Ninnette Sanatorium, Manitoba, in a privately printed pamphlet, in 1920, discusses the various changes in treatment, and in our attitude toward tuberculosis, which have taken place during the past ten years. Stewart is one of our best writers and students on this subject. His articles are always well worth reading.

Webb, G. B., Forster, A. M., and Gilbert, G. B. (*Journal American Medical Association*, March 26, 1921), discuss the important subject of postural rest for tuberculosis. This includes lying on the affected side during sleep and as much as possible during the daytime, increasing gradually, aiming eventually to reach the time when the patient will spend twenty hours on the affected side. A small pillow placed under the ribs will increase the splinting effect. Sewall, H., and Swezey, S. (*American Review of Tuberculosis*, September, 1921), take up the same subject,—rest of the affected lung by means of adhesive strapping and a webbing belt. These are interesting and important attempts in the right direction.

Rollier, A. (*Tubercle*, March, 1921), the pioneer in heliotherapy, describes his new institution for this method of treatment with comments on the results obtained. Hyde, C. L., and Lo Grasso, H. (*American Review of Tuberculosis*, April, 1921), in an article delightfully illustrated, show the practical results obtained in sunlight treatment at their institution. The most important article of all on heliotherapy is

that of Edgar Mayer (*American Review of Tuberculosis*, April, 1921), who in a lengthy, but most excellent and thorough article, brings up to date the entire subject of sunlight and artificial light therapy, with an elaborate and complete bibliography of some 400 references. He urges great care in the use of sunlight in pulmonary cases and cautions against becoming too enthusiastic because of isolated success, or the reverse because of personal failures. Exposures to sunlight should be accommodated to the patient; no general theory can be followed for all cases. Treatment should be given under the guidance of a physician. In regard to artificial light, he does not feel that there is very much scientific evidence of the benefit to be derived from this source as yet. He believes that eventually the use of artificial light will be by the quartz lamp. Anyone interested in this subject will find every reference in this article.

OCCUPATIONAL THERAPY.

The subject of occupational therapy in tuberculosis is such a large one that little comment of mine is necessary. Anyone interested in this subject I would refer either to the National or to the Massachusetts Association for Occupational Therapy, and to the recently published journal, *The American Review of Occupational Therapy*. Occupational therapy as a means of aiding the physical and mental attitude of the tuberculosis sufferer and as a help to his disease, has come to stay. It is one of the splendid advances which has been brought about by the exigencies of the war. At the present time the number of occupational aides available is not anywhere sufficient, but their number is increasing, and schools for occupational therapy are developing rapidly.

Palmer, G. T., and Hoagland, H. W. (*Journal American Medical Association*, Aug. 13, 1921), discuss the tuberculosis problem which has arisen from the war, and which the federal government is trying to solve.

Hunt, F. H. (*BOSTON MEDICAL AND SURGICAL JOURNAL*, September 16, 1920), describes occupational therapy among consumptives as carried on at the Boston Sanatorium.

TUBERCULOSIS IN CHILDREN.

The subject of tuberculosis as it affects infants and young children is attracting a vast amount of attention. Wollstein, M., and Spence, R. C. (*American Journal Dis. Children*, January, 1921), discuss the subject of tuberculosis in infants and young children, based on 359 cases. C. H. Dunn and S. A. Cohen (*American Journal Dis. Children*, February, 1921) present an analysis of 374 infants in whom a diagnosis of tuberculosis was diagnosed in 12 per cent. of all admissions and confirmed in 9 per cent. Of the 374 cases, the skin tuberculin test was positive in 181; negative in 111. The high percentage of negatives is explained by the frequency of

marked atrophy and anemia. A negative Von Pirquet in no way rules out tuberculosis in an infant under two years of age, while a positive Von Pirquet at this age is sufficient evidence for a positive diagnosis of tuberculosis. They place great reliance on examination by means of x-ray.

Achard, H. J. (*American Review of Tuberculosis*, July, 1921), a tuberculin enthusiast, believes that Nature can be helped in her process of immunization by modern science which, in plain English, means putting those children who have been exposed to tuberculosis and who have a tuberculous infection, through a course of tuberculin therapy.

A. Levinson (*Medical Record*, May 7, 1921) describes his methods in discovering and handling children with tuberculosis, and gives details of a study of 300 children. The article is of distinct, practical value, and carefully summarized.

R. M. Balyeat (*Journal American Medical Association*, April 9, 1921) presents his conclusions in regard to the diagnosis and significance of enlarged glands at the root of the lung. This article, which stresses the value of D'Espine's sign, is of interest in view of the fact that certain signs and symptoms attributed by the author to tuberculosis, and in his opinion indicative of tuberculosis of the bronchial glands, have been proved to be of comparatively little value by the recently published report of the committee on this subject of the National Tuberculosis Association.

R. S. Berghoff (*Annals of Medicine*, July, 1920) discusses the various etiologic factors in tuberculosis. Among others he considers childhood infection by means of milk and other sources, and the effects of measles, whooping-cough and other contagious diseases of childhood, and in adult life, influenza.

Henry D. Chadwick (*American Review of Tuberculosis*, February, 1921) makes a plea for the early, adequate and aggressive treatment of the tuberculous child, and particularly the child exposed to tuberculosis, as a means of reducing the present mortality and incidence of tuberculosis.

The recently published report of the committee appointed by the National Association a year or so ago to report on what constitutes the normal chest of the child, from the clinical and x-ray point of view, is of the greatest value in this connection, and should be read and studied carefully by everyone who attempts to make a diagnosis of tuberculosis of the bronchial glands or of pulmonary tuberculosis in childhood.

PATHOLOGY AND BACTERIOLOGY.

In this connection the subject of reinfection in tuberculosis is an important and much discussed one. E. R. Baldwin and L. U. Gardner (*American Review of Tuberculosis*, August,

1921), in a long and elaborate article, take up this subject, concluding their remarks as follows:

"To sum up our study of this problem, we believe that the lesson to be learned and applied is that, hand in hand with efforts to safeguard the young from infection, more attention should be paid to safeguarding both young and old from disease.

"Without sputum and dairy hygiene the supply of dangerously infected young people will be kept up; without earlier diagnosis, education, and favorable conditions of life for the prospective victims, clinical tuberculosis will continue at an irreducible minimum."

D. A. Stewart (*Nurses' Alumnae Journal*, *Winnipeg General Hospital*, 1920), writing in his usual clear style, discusses the general subject of infection in tuberculosis with practical points concerning the disease. This article is of distinct value not only to nurses but to physicians as well.

J. G. Van Swaluwenburg and G. P. Grabfield (*American Review of Tuberculosis*, June, 1921), in two articles, take up the rôle played by the tonsil in infection in tuberculosis, particularly in regard to apical pleuritis. They believe that a common route of infection to the apices of the lung may lie through the tonsils and cervical lymphatics. While this theory cannot be accepted, at present at least, without further study, it is of distinct interest.

Rhodes, W. L. (*New York Medical Journal*, December 4, 1920), as a result of his work in the army, firmly believes that there is a connection between diseased tonsils and pulmonary tuberculosis, and claims that markedly beneficial results are obtained when tonsillectomy is performed during the initial stages of the disease.

H. L. Barnes (*American Review of Tuberculosis*, October, 1921) analyzes a large number of cases with regard to the transmission of tuberculosis from the tuberculous wife to the husband, or *vice versa*. His conclusions are sound, particularly coming as they do at a time when the majority of observers feel that adult infection, at least among healthy adults, is rare:

1. "The histories of 229 consecutive widowed patients admitted to the Rhode Island State Sanatorium, 1905 to 1921, show that 93, or 40 per cent., lost their consorts by death from tuberculosis, a tuberculosis mortality over three times that of the married people of the community.

2. "Immunity from many diseases is short-lived, and until much more convincing evidence of permanent immunity against tuberculosis conferred by childhood infections is forthcoming, a cautious logic will not accept the confident statements that are being made as to the impossibility or rarity of adult infection."

TUBERCULOSIS AND INFLUENZA.

M. Fishberg (*American Journal Medical Science*, March, 1921), in taking up the much

mooted question of an influenza and a subsequent developing tuberculosis, discusses the various lung and respiratory infections and pathological conditions following influenza. He is still the champion of the comparatively few who believe that influenza had little or no effect in reactivating a tuberculous process in the lungs.

J. B. Hawes, 2nd (BOSTON MEDICAL AND SURGICAL JOURNAL, November 18, 1920), discusses tuberculosis and influenza, based on the experience of Massachusetts State Sanatoria (approximately 2000 cases) during the epidemic. He believes that the treatment of the tuberculous patient with influenza is the same as that of the person without tuberculosis, and that such a case should be regarded as a very serious but by no means a hopeless or fatal complication. Post-influenzal bronchitis and debility are real clinical entities, but in many cases serve merely to disguise a newly awakened tuberculosis. Care, conservatism and common sense are needed more than ever in handling this problem.

J. J. Singer (*American Review of Tuberculosis*, December, 1921) takes up the differential diagnosis between pulmonary tuberculosis and post-influenzal infections. He is of the opinion, and it is undoubtedly a correct one, that many patients are called tuberculous who have really a post-influenzal infection.

Finally, Heise, F. H., in the Thirty-Sixth Annual Medical Report of the Trudeau Sanatorium, 1920, takes up this entire subject, based on reports received from over 2500 discharged patients from the Trudeau Sanatorium with reference to influenza and their tuberculous processes. This is an important and might well be called a final article on this subject.

X-RAY.

It is satisfactory to note that the x-ray man and the clinician are gradually getting the same point of view and coming closer together in their work. The roentgenologist of the present day who believes that the clinician should be thrown into the discard, and that he alone is the proper person to diagnose tuberculosis, is, I am thankful to say, conspicuous by his absence.

F. W. O'Brien (BOSTON MEDICAL AND SURGICAL JOURNAL, December 16, 1920), in discussing the value of the x-ray, claims that in the majority of cases it reveals a more extensive lesion than is found by physical signs, and that it will show glandular changes before evidence of this can be found by percussion and auscultation.

With this I am in hearty accord.

Ornstein, G. G., and Sampson, H. L. (*American Review of Tuberculosis*, December, 1921), discuss the signs of activity of a tuberculous process as indicated by the x-ray. They summarize their findings as follows:

"1. Activity is indicated in the roentgenogram by (1) mottling with decidedly ill-defined margins, blending gradually with the surrounding lung tissue, which appears hazy and

cloudy (non-walled-off tubercles), and (2) the presence of spontaneous and localized pneumothoraces.

"2. The amount of activity is dependent upon the area of surface drained by the circulation (coalesced or disseminated tubercles).

"3. Diminished activity runs parallel to the amount of fibrosis and calcification that has taken place."

Although this report is interesting, I believe that it still remains, and will always remain, for the clinician to decide this important point as to whether or not the disease is active or inactive.

Amberson, J. B., Jr. (*American Review of Tuberculosis*, November, 1921), has given the final word in the etiology of the roentgenographic pleural annular shadows in pulmonary tuberculosis. His views in regard to this much disputed point are now very generally accepted.

NON-PULMONARY TUBERCULOSIS.

The x-ray treatment of tuberculous glands still has some ardent advocates. M. Berry (*British Journal Tuberculosis*, January, 1921) is one of these, and in an interesting article discusses the various methods of treatment, especially that by means of the x-ray. Bogardus, F. B. (*American Journal Ophthalm.*, September, 1920), believes that tuberculosis is the most common cause of recurrent retinal hemorrhage, and gives the details of ocular tuberculin treatment. Stark, H. H. (*Journal American Medical Association*, October 2, 1920) discusses this same subject.

R. H. Miller (article to be published in *Journal American Medical Association* later), in an excellent paper, summarizes the best accepted ideas as to the treatment of tuberculous cervical adenitis. This was read at the last meeting of the American Medical Association. I feel that Dr. Miller's work has covered this ground thoroughly and well.

EDUCATIONAL.

It is a well-known fact that the weakest link in our educational campaign against tuberculosis is that the subject is given either no or scant attention at our best medical schools in this country. Cummins, S. L. (*British Journal Tuberculosis*, July, 1921), discusses this subject in detail; Klotz, W. C. (*American Review of Tuberculosis*, November, 1921), describes how such training is carried on in the University of Virginia in affiliation with the new tuberculosis sanatorium recently established by the State Board of Health. In view of the fact that undergraduate instruction in tuberculosis which even approaches being adequate, in the slightest, is extremely rare in the medical schools of this country, this article is of distinct interest. The same subject is taken up in a pamphlet issued by the Ohio State Sanatorium, Mt. Vernon, Ohio, describing courses in tuberculosis conducted throughout the year for physi-

eians and surgeons by the Ohio State Sanatorium. Krause, A. K. (*American Review of Tuberculosis*, November, 1921), in his usual happy and philosophic vein, takes up this same problem.

It is a curious, and to me a somewhat incomprehensible fact, that while there are special departments for syphilis, tropical diseases, and others, there are almost no special departments of tuberculosis in our medical schools, and remarkably little training in this subject. This is a state of affairs that cannot last much longer. H. Gauvain (*British Journal Tuberculosis*, January, 1921) urges that there be more thorough, systematic and prolonged training of physicians in the prevention of disease, and particularly tuberculosis, in the medical schools. He states that neither in England nor in Ireland is there a single professor of tuberculosis in any teaching school, and only two appointed in the United Kingdom. Few, if any, medical students enter any of the special institutions for tuberculosis, except as patients. The same applies to the United States just as much as it does to England. At the present time, the number of medical schools which give systematic and thorough teaching in tuberculosis, and which offer facilities for the medical student to have anything but fleeting glimpses of the early cases, and which give to their students any knowledge whatsoever of tuberculosis as a social, administrative, state and national problem, are conspicuous by their absence.

The work of the Framingham Demonstration is too well known to require much comment. Armstrong, D. B. (*American Review of Tuberculosis*, February, 1921), in an interesting article, summarizes what has been accomplished and the chief lessons that have been learned as the result of the four years that the Framingham Demonstration has been carried on. The article is well worth reading by all those interested in tuberculosis from the public health and social standpoint. The last paragraph sums the subject up briefly and well:

"In conclusion, there must be emphasized the necessity for recognizing the comprehensive nature of an effective antituberculosis program. It is essential to employ all of the community's resources. Tuberculosis is not merely a medical problem; it is not merely a health problem; it is a social problem, in the broadest sense, requiring a comprehensive community engineering plan, if the possibilities for disease control are to be realized to the full."

R. Bosworth (*American Review of Tuberculosis*, March, 1921) describes what has happened to the patients discharged from the Minnesota County Sanatoria. He believes that institutional care and control of tuberculosis will not be reached until each case is admitted before the sputum becomes positive, and, of more importance, a proper solution is found for the control

and supervision of the positive sputum case after discharge.

Billings, B. W. (BOSTON MEDICAL AND SURGICAL JOURNAL, September 16, 1920), who has conducted various detailed tuberculosis surveys, in this article describes the methods which she has used and the value of such surveys.

Wagner, H. S. (BOSTON MEDICAL AND SURGICAL JOURNAL, September 16, 1920), reports on the work he has been doing at Barnstable County, Mass., in itinerant consultation service. This method of bringing the doctor, expert in his particular line, to his patient, or to groups of patients, instead of the patient coming to the doctor, is proving to be a real factor in discovering cases of tuberculosis which otherwise would be missed.

MISCELLANEOUS.

Winslow, C.-E. A., and Greenberg, L. (*Journal Industrial Hygiene*, January, 1921), discuss the methods and means of controlling factory dust, the incidence of tuberculosis when under exposure to various varieties of dust and reasons why this incidence and mortality is high in some cases and less in others.

Taylor, H. L. (*American Review of Tuberculosis*, June, 1921), shows as a result of his investigations that tubercle bacilli are transferred to eating utensils and that they are potentially exceedingly dangerous avenues of contagion. He believes that public health officials should enforce the use of steam and hot water in all hotels, restaurants, and soda fountains, otherwise he believes that these public eating and drinking places must, to a certain degree, be responsible for the dissemination of all infectious diseases of the air passages and lungs and of other constitutional and general diseases.

PROGRESS IN UROLOGY.

BY PAUL THORNDIKE, M.D., BOSTON,

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AND

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*The Young-Stone Operation for Urethrorrectal Fistula.*¹—Davis emphasizes the importance of saphropubic drainage, closure of the urethral fistula and the bringing together of the fascia and levator fibers in the middle line, thereby forming a barrier between the urethra and rectum. The operation itself is practically the same as the old Whitehead operation for hemorrhoids, that is, a cuff of the rectum is freed and pulled down far enough so that the amputation may be performed above the fistulous opening. He claims that the less extensive procedures are chiefly accountable for the numerous

failures in these cases and also goes on to state that the Young-Stone operation is not to be used in cases of tuberculosis or cancer.

*Focal Infections in Relation to Submucous Ulcer of the Bladder and to Cystitis.*²—Meisser and Bumpus at the Mayo Clinic have worked out very thoroughly and scientifically what seems to be a proof of bacterial specificity in these cases. They have shown that infection of the urinary bladder, which has often been attributed to pyelo-nephritis where no evidence at the time of infection of the kidney or where no perivesical disease was in evidence,—the real cause of the bladder infection did not come from the kidney at all. Under certain conditions the infecting organism may cause a generalized cystitis or the inflammation may become localized in one area of the bladder, causing an ulcer such as Hunner described as a "submucous ulcer." They also claim that the tissues in submucous ulcers indicate a blood-borne infection. By recent experimental investigation they have shown that pyelo-nephritis may often be due to focal infections harboring streptococci which have selective affinity for the urinary tract, and that the colon bacillus, which is commonly found and generally believed to be the cause, is one of secondary importance. They have shown that intravenous injections of colon bacilli seldom result in the production of localized urinary lesions; that after other bacteria have been injected, resulting in lesions of the urinary tract, the colon bacillus is frequently found as a secondary invader.

If the theory that vesical infections are of hematogenous origin is correct, it is natural to attribute the source of infection to oral sepsis. Hunner, in his work on submucous ulcers, has suggested this as the source of infection. They report fifteen cases of submucous ulcers done at the Mayo Clinic in which seven had had tonsillitis, three tonsillectomies, five gripes, three scarlet fevers, and two rheumatisms. Eleven patients showed evidences of periapical infection. All of these infections were associated with streptococci. Certain strains of streptococci seem to have a much greater selective affinity for the urinary tract than others.

*Thomas and Pfahler Describe a Treatment of Carcinoma of the Bladder and Prostate by a Combination of Surgery, Electro-Coagulation, Radium Implantation and Roentgen Ray.*³—Their first procedure consists of the usual routine suprapubic cystotomy and with a good exposure begin the process of electro-coagulation. They use d'Arsonval current because of the great concentration of the current at the bulbous electrode which is introduced into the bladder. There is rapid destruction or coagulation of the tissue to which it is applied. They use a current from 500 to 1,500 milliamperes. The growth in the bladder in this way is carefully destroyed and the coagulation occurs with such rapidity that there is practically no hemor-

rhage, care being used not to scald or macerate the wall of the bladder. The tumor tissue, after it has been thus destroyed, is everted away. After the bladder has been properly irrigated the radium needles are then implanted. The needles used contain 10 milligrams of radium element each. These needles are left from eight to eighteen hours, depending upon the probable degree of malignancy. The smaller the area of disease and the closer the needles, the shorter the period of time the needles are allowed to remain. The process of sloughing which follows requires from three to four weeks. If the carcinoma involves the prostate gland the radium is used through a suprapubic wound and also by the perineal route after the method described by Herbst. They believe that roentgen-ray cross-fire is of advantage and should precede operative measures and by this treatment destroy outlying carcinomatous foci in the lymphatics. They also believe that it is of distinct advantage in postoperative treatment as well, and that this treatment should cover the entire pelvic area and extend up as far along the line of lymphatics as the condition has traveled.

*A Procedure for the Cure of Prostatic Abscess.*⁴—Barringer reports a cure of fifteen consecutive cases of prostatic abscess by a procedure much simpler than the radical method. With the patient in the lithotomy position and with the gloved index finger of the left hand in the rectum as a guide, he proceeds with local anesthesia and a $3\frac{1}{2}$ inch, 18 gauge needle. Anesthetizing as he goes along, the needle is thrust into the lobe of the prostate where the abscess is localized and with a 5 cc. syringe attached to the needle suction is applied and the pus aspirated, the needle being moved backwards and forwards and also rotated so that all the pus may be aspirated from the cavity. Each lobe of the prostate is punctured, and if there is any question of a supraprostatic abscess or abscesses of the seminal vesicles, these are likewise aspirated at the same time. He advises the use of a needle similar to the lumbar puncture needles. Abscesses of the prostate caused by streptococcus, staphylococcus, or colon bacilli do not respond well to this type of treatment.

Geraghty, in Volume 7, No. 5, of the *Journal of Urology*, gives a New Method of Perineal Prostatectomy Which Insures More Perfect Functional Results, by avoiding injury to the membranous urethra and external sphincter. With the patient in the usual exaggerated perineal lithotomy position he uses the prostate retractor devised by Freiberg with the symphysis as a fulcrum forcing the prostate forwards towards the perineum. With a semicircular incision the ischiorectal fossae are opened and a bifid retractor introduced and with retraction the central tendon becomes very tense and prominent. This is divided close to the bulb, thus exposing the rectum. Fibers of levator ani are then separated in the mid line in the re-

gion of the apex of the prostate. The anterior fibers pushed laterally while those covering the body of the gland are pushed backwards exposing the glistening visceral layer of Denonvilliers fascia. At no time during this operation is the membranous urethra exposed or is the musculature disturbed. The remainder of the operation is similar in technique to that described by Young and Hinman.^{5, 6}

*Treatment of Pyelitis.*⁷—Kretschmer, in his report of 200 cases of pyelitis not of a surgical nature, shows that, by a combination of pelvic lavage, together with a careful study of the case in an endeavor to find out the source of the infection, he has obtained very gratifying results. He uses, as a routine, silver nitrate irrigations and in recurring cases he has shown that the cause of the recurrence is due to the fact that the original source of infection had not been entirely removed or was impossible to be removed.

*The Formation of a Cloaca in the Treatment of Exstrophy of the Bladder.*⁸—There have been seventy-two cases of this type at the Mayo Clinic, thirty-six operated on and twenty-nine successful operations. In the early cases the Maydl and Moynihan operation was employed; an artificial cloaca was formed by making an opening between the bladder and the anterior rectal wall. The most recent cases in this group of thirty-six were operated upon by the Coffey operation of transplanting the ureters into the sigmoid by a two-stage operation and complete cystectomy with closure of the wound by fascia as the third and last stage. He also emphasizes the two dangers in this operation: First, peritonitis on account of the fact that it is an intraperitoneal operation, and, secondly, the danger of ascending pyelitis from the bowel. He states that the best time for operation is between the fifth and tenth year.

*Stenosis at the Internal Meatus after Suprapubic Prostatectomy.*⁹—Fullerton describes the stenosis occasionally resulting at the vesicoprostatic orifice following prostatectomy. Certain of these cases develop within a short period of time after the prostate has been removed; others develop at a much later period, and it is found almost impossible to pass any type of instrument or catheter into the bladder even though the patient seldom complains of difficulty in micturition. In one case it was necessary for the author to do a suprapubic exploration of the bladder in which a tent-like membrane was found almost completely covering the bladder cavity, the bladder outlet having contracted down to a very small opening. To prevent recurrence of this condition the author makes an incision through the vesicoprostatic septum. When this condition is suspected the patient should be treated with urethral dilators for some period of time.

*The Use of Gum-Glucose Solution in Major Urological Surgery.*¹⁰—The authors emphasize

the importance of a decrease in the blood pressure as a sign of beginning shock. In forty of their cases they claim to have maintained the blood pressure by the use of intravenous gum-glucose solution. It was introduced into the vein not faster than 25 c. cm. in five minutes, according to the body weight. This was followed by a maintenance of blood pressure, increased diuresis, increased thirst, the absence of nausea and increased passage of flatus. The solution has no haemolytic or agglutinative action. There were no deaths among the patients who were treated in this manner.

*A New Method of Treating Retention of the Testicle with Short Spermatie Cord.*¹¹—Siewers in this operation believes that in all cases where the testicle cannot be brought down into the fundus of the scrotum without tension on the cord, that the course of the cord should be shortened. He then describes a method of changing the course of the cord by bringing the cord down through the median segment of the obturator foramen. This type of operation removes the cord completely from the inguinal region; and he also suggests that it is a good procedure in those cases of radical operations for inguinal hernia in which, on account of the size of the hernia or recurrence, adequate closure of the abdominal wall is difficult.

*The Transperitoneal Approach to the Kidney, Its Indications and Limitations.*¹²—The author brings out the fact that this method of approach to the kidney, so far as recent text-books on urology are concerned, would lead one to believe that the method is becoming obsolete. He very forcibly emphasizes the value of this means of approach to the kidney and recommends it in renal tumors of considerable size in which the possibilities of infection have been ruled out. It not only makes the approach to the renal vessels much easier, but it also minimizes hemorrhage, which is bound to occur, to a greater or less extent, in tumors approached by the lumbar route.

*Prostatectomy Cases, Postoperative Treatment.*¹³—The author considers postoperative hicough as a serious condition which should be checked promptly before it reaches the pernicious stage. He believes that pyelo-nephritis is a most probable cause of hicough and that this produces a reflex or toxæmia, usually without uræmia. His treatment consists of stomach washings with $\frac{1}{2}$ per cent. bicarbonate solution two or three times daily. The administration of 2,000 to 3,000 c. cm. of a $\frac{1}{2}$ of 1 per cent. soda bicarbonate plus 5 per cent. glucose solution during each twenty-four hours, preferably by rectum by the drip method, 5 gr. of chloroform, atropine in 1-100 gr. doses every two hours for four injections, and morphine. He also believes in giving some very drastic purgative prior to the operation. Rosencrantz also prefers spinal anaesthesia, believing that it lessens the danger of hemorrhage and uræmia. He

states the causes of rise in temperature are due either to constipation, infection in the pre-vesical space, pyelo-nephritis, or a flaring-up of some old focus of infection.

*An Original Method of Observing the Kidney without Pneumoperitoneum.*¹⁴—To increase the visibility of the kidney, which is outside the peritoneal cavity, Carelli produces an artificial emphysema in the surrounding cellulose-adipose tissues. This is done in the following manner: A roentgenogram having been made with metallic landmarks on the skin, a fine platinum needle from 10 to 12 cm. long is inserted under strict asepsis as far as the transverse process of the second lumbar vertebra. When the process is reached the course of the needle is deviated so as to avoid the process. Oscillation of the manometer of the injecting apparatus indicates when the needle is embedded in the perirenal adipose tissue. The gas to produce the artificial emphysema is then injected in quantities ranging from 200 to 600 c. cm. Carbon dioxide is best for this purpose. Absorption is so rapid that if several roentgenograms are to be made they must be taken as soon as the emphysema is produced and as rapidly as possible. The slight discomfort caused by the gas disappears in less than half an hour.

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Book Reviews.

Blood Transfusions. By GEOFFREY KEYNES. Oxford Medical Publications. London: Henry Frowde and Hodder & Stoughton. 1922.

Concise, practical monographs on special subjects should always be welcomed by the profession. Until this 158-page publication of Keynes no such monograph has appeared on transfusion, though Bernheim's "Blood Transfusion, Hemorrhage and the Anemias" printed by J. B. Lippincott Co. in 1917, approaches a work of this character. It is in this country that practically all the important advances in the science of blood transfusion have been made, yet it is this English publication that must be looked upon as the best monograph on the subject. Throughout the work the author pleasingly acknowledges the

American contributions and recognizes that it was members of our Medical Corps that gave the British much of their knowledge of transfusion. About 60 per cent. of the well selected references are to communications from the United States.

Keynes gives a connective lucid account of the whole subject and the problems rising from it. It is not an elaborate or very broadly conceived work, but in making any adverse criticisms it is unfair to let them weigh heavily against the value of the book in as much as criticisms largely concern themselves with omissions and discussions of newer views.

History makes all things more interesting and worth while so that the historical sketch of transfusion in the first chapter serves as a stimulus and guide for further study. The second chapter on "Hemorrhage and Shock" is perhaps the best one. The pathologic-physiology of these conditions and their treatment are admirably discussed. In the following chapter appears a presentation of the use of transfusion in blood diseases and toxemias. More information could be profitably added particularly as referable to the proper use and effects of transfusion in pernicious anemia; and the pathologic-physiology of the effect of transfusion on the oxygen capacity of the blood and factors of coagulation. One notes the omission of Y. Henderson's views on carbon monoxide poisoning. There also appears a lack of appreciation of the pathology of the marrow in benzol poisoning and thus the value of repeated transfusion in this condition is lost sight of.

The fourth, fifth and sixth chapters are devoted to "Dangers of Blood Transfusion," "The Physiology and Pathology of the Blood Groups," and "The Choice of Blood Donor." Reactions due to transfused blood usually attributed to the instability of blood when removed from the body are not clearly described or fully discussed. The physiology and pathology of the blood groups are well presented, including some excellent paragraphs on their inheritance. The form of routine test recommended for the determination of the blood group is a good one "admittedly not susceptible of the same fineness" as some others. In view of this fact as well as recognition and emphasis placed upon "the necessity for careful blood grouping in every case before performing transfusion," it is somewhat surprising not to find a more detailed description of tests, including direct tests on the blood of the patient and donor, and the character of reactions between sera and cell suspensions. The last chapter gives complete practical instructions for performing transfusion, especial emphasis being placed on a simple citrate method.

In spite of certain omissions this volume is to be recommended as superior to any other single work on the subject. It is not an exhaustive treatise as desired by those intimately acquainted

with the different aspects of blood transfusion. An expansion of this volume following further experience and mature thought would probably establish the work as one of more permanent value and embrace its usefulness. Its brevity and clarity, however, make it of true worth, especially for those wishing to obtain readily a connected serviceable account of the whole subject.

Applied Chemistry. By FREDUS N. PETERS. Ph.D. St. Louis: C. V. Mosby Co. 1922. Price, \$3.50.

This book is a very well arranged elementary chemistry, covering in a very interesting manner the important facts of inorganic chemistry and some of the more common phenomena of organic chemistry, such as lighting and lubricating fluids, fats and oils, starch, foods and their values, etc. It is written in very concise but readable style. Though intended primarily for a high school text-book, it is excellent for a household reference book of simple chemistry.

Clinical Laboratory Technic for Nurses. By ANNA L. GIBSON, R.N. Revised Edition. Boston: Whitecomb & Barrows. 1923. Price, \$2.00.

This is a much needed book, written by a nurse who has had good training and is actually doing this work. It is an excellent book for those who teach in training schools for nurses; for nurses doing laboratory work in the small hospitals which do not have regular chemists and pathologists; and for the office nurse, as it covers much of the same ground as the more elaborate works on diagnostic technic written for physicians, but in a simplified form that can be followed by one who has not had a medical training. It should be useful also to the practitioner when he wishes only the technic of tests, turning to the larger medical works when necessary for the interpretation of the findings.

The first two chapters describe the care of laboratory apparatus and the microscope, and the preparation of reagents, with many useful tables; a chapter each is devoted to urine, faeces, etc., including one on the preparation of tissue for microscopic study.

Food, Health and Growth. By L. EMMETT HOLT. New York: The Macmillan Co. 273 pages. Price \$1.50.

This book consists of a series of lectures given in California last winter by the author. It takes up the subject of nutrition in childhood from the broadest possible standpoint, and represents a digestion of an enormous amount of material. It is not written as a text or reference book, but is more especially a plea for recognition of the prevalence of malnutrition in children, and

the importance to the race in preventing it. Many statistics are quoted, and a great deal of the material is based on original work that Dr. Holt and his associates have been carrying on for some years.

The author always has written in an exceedingly clear and illuminating style, and this book is interesting from start to finish. The chapter on vitamins is an excellent digest of a difficult subject; that on caloric needs is also very good and points out especially how really little we have known covering the caloric needs of children, and upon what inadequate data much of our supposed knowledge is founded.

The Healthy Baby. (Second Edition Revised.) By ROGER H. DENNETT. New York: The Macmillan Co. 247 pages. Price \$1.25.

There is no question that the Mother's Manuals are popular and do a great deal of good. Dr. Dennett's is one of the best. The title is, however, somewhat misleading, as he includes a good deal of material relating to older children.

The book is in six sections, as follows:

1. Development and the Bodily Functions.
2. Hygiene and Training.
3. Common Ailments.
4. Care of the Special Organs.
5. Feeding and Diet.
6. Lists and Tables.

In the main, one can agree heartily with most of what Dr. Dennett says. Many pediatricists, however, including the reviewer, would not believe in giving a large baked potato daily to infants of 10 months, as the author recommends. Nor would most authorities believe in giving raw berries at the end of the second year. To the reviewer this seems utterly unsound. Despite one or two statements, such as the foregoing, to which exception might be taken, the book is sound, sensible, comprehensive and readable, and can be heartily recommended to all young mothers.

The book should do a great deal to stimulate physicians to be on the watch for malnutrition in children and to treat it correctly when they see it.

HONORARY DEGREES.

The degree of doctor of laws has been conferred by Lafayette College on Dr. Alfred Stengel, professor of medicine in the University of Pennsylvania.

At the 85th annual commencement exercises of Marietta College, Dr. Charles E. Humiston of Chicago received the honorary degree of doctor of science in "recognition of his efforts to raise the standard of the medical profession in all parts of the country."—*Science*.

Current Literature Department.

ABSTRACTORS.

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GEORGE G. SMITH
JOHN B. SWIFT, JR.
WILDER TILESTON
BRYANT D. WETHERELL

THE SIGNIFICANCE OF THE INFLUENZA BACILLI.

BLOOMFIELD, A. L. (*Johns Hopkins Hospital Bulletin*, May, 1922) discusses two problems in regard to the epidemic of influenza, namely, (1) As to whether the influenza bacillus was the cause of the epidemic, and (2) if not, what relation did it have to the disease and what is its general significance?

He has taken up the following questions:

1. The comparative incidence in the population at large during epidemic, post-epidemic, and later periods.
2. The seasonal variation, if any, through the year in relation to respiratory disease.
3. The relative number of chronic and of temporary carriers.
4. The localization of organisms in carriers in relation to persistence.

The summary of the literature brings out the following points in regard to carriers of influenza bacilli:

(1) Influenza bacilli may be carried for prolonged and indefinite periods of time by individuals affected with chronic respiratory disease—bronchitis, bronchiectasis, lung abscess, etc. In this case the organisms seem to live and multiply in the focus of infection whence they are discharged.

(2) Normal (clinically well) people without any recent history of respiratory disease may harbor influenza bacilli in the throat. While the observations on record are few, it appears that such a carrier state may be brief or prolonged, and that in some cases the same strain of organism may be present for months or a year.

(3) Great variations have followed the experimental introduction of influenza bacilli in man. In some cases the organisms were promptly eliminated, in others a carrier state was set up lasting for weeks or even months. The situation is complicated by the doubtful relation of some of the cases to acute respiratory infection, by the fact that no exact observations were made on the location of the organisms in the upper air passages, and by the fact that in some cases old laboratory strains and in others freshly isolated human strains were used.

The main results of his present work may be briefly summarized as follows:

"In the first place it appears that the general incidence of influenza bacilli in the throats of healthy people has declined greatly since the time of the pandemic, the present figure being comparable to that which existed before the wave of influenza in 1918. Furthermore, there seems to be no striking relationship in the season of the year or to the prevalence of minor respiratory infections. An outstanding feature of the carrier state in the individuals we have observed was its usual relatively brief duration and the absence of evidence in the case of healthy people of localization of influenza bacilli in a localized area of diseased tissue such as the tonsil."

Finally, he concludes that we have in the case of the influenza bacillus group, organisms which show a marked variation at various times in their adaptation to growth on human mucous membranes. A

variety of altered conditions, especially acute infectious diseases, may produce this change but epidemic influenza does so to an extreme degree. [J. B. H.]

ORAL SEPSIS AND SYSTEMIC DISEASE.

WATSON, W. B. (*The Practitioner*, June, 1922) discusses the various conditions which in his opinion may be associated with and indeed are the result of oral sepsis. These conditions include practically all the diseases known to man. He takes them up under the diseases of the cardiovascular system, diseases of the blood and ductless glands, diseases of the digestive, nervous, respiratory and urogenital systems, diseases of the eye and the rheumatic group of diseases. [J. B. H.]

THE RELATION OF NUTRITION TO TOOTH DEVELOPMENT AND TOOTH PRESERVATION.

MCCOLLUM, SIMMONDS AND KINSEY (*Johns Hopkins Hospital Bulletin*, June, 1922) presents the first part of an elaborate study of gross maxillary and dental defects in 220 rats on defective and deficient diets. Their conclusions so far are as follows:

The percentage of oral defects was greatest in rats fed the diets deficient in protein, calcium and fat-soluble A. The rats on diets low in calcium exhibited the next highest incidence and those on diets low in both calcium and fat-soluble A had the third percentage of damage.

A deficiency of the anti-scorbutic substance from the diet of man would no doubt be a factor in the production of oral disease but the rat is able to synthesize this substance.

Polynneuritis, xerophthalmia and scurvy are outspoken expressions of deficiency disease, which, in this country, fortunately are rarely encountered.

It is our belief, however, that severe oral disease may result from diets which are only relatively defective, where the disturbance appears to be out of all proportion to the cause.

In these border-line phases, the dietary defect or deficiency is minute and can only be determined by careful scrutiny of the diet and patient, or of the animals over a considerable period.

It is not possible at this time to name any one deficiency which specifically causes dental or oral disease; it would appear that any slight variation in the American diet, which always so dangerously approaches the level of dietary deficiency, might become active at any period of lowered resistance or of physical or nervous stress. [J. B. H.]

STUDIES IN ASYMPTOMATIC NEUROSYPHILIS.

MOORE, J. E. (*Johns Hopkins Hospital Bulletin*, July 1922) in this paper discusses the classification, treatment and prognosis of early asymptomatic neurosyphilis, presenting the following conclusions:

1. It has been shown that early invasion of the central nervous system in syphilis, is common, occurring in 26.4 per cent. of a series of 352 patients with primary and secondary syphilis. Of 94 early neurosyphilis, 72 were asymptomatic, and were detected only by the routine application of spinal puncture.

2. Early asymptomatic neurosyphilis may be divided into three sub-groups on the basis of the spinal fluid findings and the response of the various groups to treatment.

3. Invasion of the central nervous system probably occurs in the majority of all patients with syphilis, and unless the course of the disease is influenced from without (by treatment), this invasion takes place in most instances within the first year after infection. The ability of the invading organisms to produce clinical neurosyphilis probably depends on the defense mechanism of the individual patient. The experimental and clinical evidence bearing on these points are reviewed.

4. Early asymptomatic neurosyphilis is more common in the white race than in negroes, but is equally frequent in men and women, of either or both races.

5. Prolonged regular treatment influences favorably the incidence of early asymptomatic neurosyphilis. Irregular or lapsing treatment, on the other hand, markedly increases its incidence.

6. A study of this material from the standpoint of strains of *Treponema pallidum* furnishes no support to the theory of the existence of a neurotropic strain of organism.

7. That the spinal fluid abnormalities of early asymptomatic neurosyphilis are evidence of actual anatomical damage to the nervous system, is indicated by the frequency of certain minor subjective and objective neurologic signs in this class of patients. An appreciation of these signs, and of the significance of a persistently positive blood Wassermann reaction in treated patients, furnishes a clinical diagnostic aid for the recognition of neurologic invasion.

8. Spinal puncture is an indispensable routine procedure in the management of early syphilis. Unless it is employed, many patients will be discharged as cured who are nevertheless candidates for clinical neurosyphilis. It should be performed as a routine after the first or second course of arsphenamin, and unless a lapse in treatment occurs, need not be repeated (if negative) until the end of treatment and the probation period.

9. All three groups of asymptomatic neurosyphilis may be serologically and clinically "cured" by appropriate methods of treatment.

10. Early asymptomatic neurosyphilis is the forerunner of clinical neurosyphilis. One patient of our second group has developed clinical cerebrospinal syphilis. Of the third group, three patients have developed general paresis and one cerebrospinal syphilis.

11. There is suggested an outline of treatment for early syphilis, the uniform application of which will markedly reduce the incidence of asymptomatic neurosyphilis, and probably, therefore, of clinical neurosyphilis. [J. B. H.]

THE BIOCHEMISTRY OF TUBERCULOSIS.

LONG, E. R. (*Johns Hopkins Hospital Bulletin*, July, 1922) discussing the complex subject of the biochemistry of tuberculosis concludes as a result of his investigations and of others that in progressive tuberculosis the rate of metabolism is increased, as a result of the operation of two factors, hyperthermia and the toxic effect of a foreign protein upon protoplasm. As far as protein destruction is concerned, the second of these seems to be the more important, for hyperthermia *per se* does not increase nitrogen elimination in the normal subject. Yet it may well be that in the increased general metabolism induced directly by fever, the tissues become impoverished in those protein-sparing constituents which serve to prevent protein destruction at similar temperatures in health, and that protein may for this reason be drawn upon to maintain the high level of total energy transformation. [J. B. H.]

THE ETIOLOGY AND TREATMENT OF DIABETES.

RENSHAW and FAIRBROTHER (*British Medical Journal*, April 29, 1922) discuss the significance of a starch-splitting and acetone-forming organism found in the stools of diabetic patients, summarizing their results as follows:

1. From the stools of diabetics a new organism (*B. amyloclasticus intestinalis*) has been isolated which splits up starchy foods, forming oxybutyric acid, diacetic acid, butyl alcohol, and acetone. Sugar is also formed during this fermentation.

2. Acetone has been found in quantities capable of estimation in the stools of diabetics.

3. In diabetes carbohydrate fermentation occurs in the alimentary canal, forming abnormal products which probably so affect the glyco-genic function of the liver as to lead to improper storage therein of the glucose from the alimentary canal during digestion.

4. Definite lines of treatment include elimination or suppression of this organism. [J. B. H.]

CALCIUM DEFICIENCIES: THEIR TREATMENT BY PARATHYROID.

GROVE and VINES (*British Medical Journal*, May 20, 1922) discussing the various conditions in which there is a calcium deficiency such as the chronic toxæmias, particularly suppurative conditions, from the clinical observations which they describe, draw the following conclusions:

1. The ionic calcium of the blood becomes deficient in cases where a chronic toxæmia is present. Such deficiency may be regarded as one of the manifestations of the presence of a chronic toxic state, and is an indication that the septic focus should be carefully sought for and treated where possible.

2. Where there are lesions due to such states, healing does not commence until the ionic calcium of the blood approximates to the normal figure.

3. By parathyroid therapy it is possible to rectify the calcium balance of the blood much more effectively than by the injection of calcium salts.

4. The therapeutic use of parathyroid substance in the cases described is essentially physiological. It does not appear to act specifically against any one organism, nor any one toxin. Its action is to place the tissues of the patient under conditions more suitable for the performance of their normal functions, and for combating the effects of toxic processes. [J. B. H.]

DYSPEPSIA AND CONDITIONS UNDERLYING IT.

DAWSON (*British Medical Journal*, June 3, 1922) divides the various forms of dyspepsia into three groups as follows:

1. Pain or discomfort thirty to forty minutes after food with epigastric tenderness. Vomiting, if present, follows the pain and relieves it. Haematemesis is an occasional feature.

2. Pain two to three hours after meals (it may be with tenderness) relieved by food and alkalis—the hyperchlorhydria complex.

3. Distention and flatulence are the dominant features, and the discomforts which go with them. Vomiting and bleeding do not occur. The bowels are liable to act irregularly and incompletely.

He discusses these groups in detail and in a plain and practical manner. His article is of distinct value to the general practitioner. [J. B. H.]

A PULMONARY SIGN IN ACUTE INFECTIONS OF THE BILIARY TRACT.

WILKIE, D. P. D. (*British Medical Journal*, June 16, 1922) believes that in certain acute infections of the biliary tract there are pulmonary signs at the base of the right lung. He believes that in a patient complaining of pain at the right costal margin and round the right side of the chest the discovery of crepitations or even of pleural friction at the right base does not preclude, but may support, the diagnosis of an acute biliary infection and that such pulmonary signs are secondary to the biliary infection, and, far from contraindicating operation, will be effectively treated by dealing surgically with the primary focus of disease. [J. B. H.]

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THE TUFTS COLLEGE MEDICAL SCHOOL.

THE new era now opening in the history of the Tufts College Medical School under the leadership of the newly-elected Dean, Stephen Rushmore, will be of interest to those concerned with medical pedagogy.

This school began its work in the autumn of 1893. The first dean was Albert Nott, M.D., who served two years. He was followed by John L. Hildreth, A.B., M.D., LL.D., who served two years. Next in order was Harold Williams, A.B., M.D., LL.D., who served thirteen years. Dr. Charles F. Painter, A.B., M.D., held the office for eight years, and after his resignation there was an interim during which Dr. Frank G. Wheatley was acting dean until the appointment of Dr. Rushmore. Under the leadership of these men the Medical School grew in influence and was rated by the Council on Medical Education as a Class A school.

The professors and associate professors of the various departments at this time number 43, as follows:

Professors Emeriti — Frederic Melanethon Briggs, A.B., M.D., Surgery; Henry Beckles Chandler, C.M., M.D., Ophthalmology; Elwood Tracy Easton, M.D., Ophthalmology; John Lewis Hildreth, A.B., M.D., LL.D., Clinical Medicine; George Wharton Kaan, M.D., Clinical Gynecology; Morton Prince, A.B., M.D., LL.D., Neurology; John Jenks Thomas, A.M., M.D.,

Neurology; George Hamlin Washburn, A.B., M.D., Obstetrics; Harold Williams, A.B., M.D., LL.D., Theory and Practice of Medicine.

Professors—John Lincoln Ames, A.B., M.D., Theory and Practice of Medicine; George Andrew Bates, M.S., D.M.D., Histology; William Elisha Cheney, A.B., M.D., Laryngology; Felix Percy Chillingworth, M.D., Physiology; William Robie Patten Emerson, A.B., M.D., Children's Diseases; Leo Victor Friedman, A.B., M.D., Obstetrics; Allen Greenwood, M.D., Ophthalmology; Frederick William Johnson, A.M., M.D., F.A.C.S., Clinical Gynecology; Frank Howard Lahey, M.D., Clinical Surgery; Edward Binney Lane, A.B., M.D., Mental Diseases; Timothy Leary, A.M., M.D., Pathology, Bacteriology and Medical Jurisprudence; Edward Norton Libby, A.B., M.D., Clinical Medicine; Francis Henry McCrudden, B.S., M.D., Applied Therapeutics; Edward Osgood Otis, A.B., M.D., Pulmonary Diseases and Climatology; Charles Fairbanks Painter, A.B., M.D., Orthopedic Surgery; Edward Marwick Plummer, M.D., Otolaryngology; Andrew Howard Ryan, M.D., Physiology; Townsend William Thorndike, M.D., Dermatology; Frederick Wilbur Thyng, A.M., Ph.D., Anatomy; Frank George Wheatley, A.M., M.D., Pharmacology; Charles Melville Whitney, M.D., Genito-Urinary Diseases.

Associate Professors—Elmer Walter Barron, A.B., M.D., Children's Diseases; Arthur Lambert Chute, M.D., Genito-Urinary Surgery; Jesse LeRoy Conel, A.M., Ph.D., Anatomy; Walter Elmore Fernald, M.D., Mental Diseases; Frank Eugene Haskins, Ph.G., M.D., Pharmacology and Toxicology; Arthur Ronald Kimpston, M.D., Surgery; Walter Freeman Nolen, M.D., Anatomy; Thomas James O'Brien, Ph.G., M.D., Clinical Medicine; Henry Joseph Perry, A.B., M.D., Dermatology; Louis Eusebe Phaneuf, Phm.D., Ph.C., M.D., F.A.C.S., Clinical Gynecology; Cadis Phipps, A.B., M.D., Clinical Medicine; Stephen Rushmore, A.B., M.D., Gynecology; Frank Percival Williams, M.D., Surgery.

In addition there are over a hundred assistant professors, instructors, teachers and laboratory assistants.

During its existence the Medical School has conferred the degree of Doctor of Medicine on 1764 graduates. There were 441 students in the school last year and about 140 will enter this year.

The Dental School, formerly the Boston Dental College, became a part of Tufts College in 1899. The buildings are two in number, consisting of a main building occupied by the Medical and Dental schools, with seven lecture rooms. There are well-equipped laboratories for general work and instruction and an equal number of private research laboratories.

Although the students have access to the public exercises in the hospitals of Boston and

many secure positions in out-patient and house services, a large hospital directly controlled by this school would add to a great extent to the teaching facilities. The creation of such a hospital or close affiliation with one will come in time.

The graduates of Tufts Medical School have played an important part in the medical history of this section of the country and this institution is bound to meet many of the demands for practitioners of medicine.

The BOSTON MEDICAL AND SURGICAL JOURNAL extends its hearty good wishes to Dean Rushmore and for the future progress of the Tufts College Medical School.

FULL-TIME TEACHERS IN MEDICAL SCHOOLS.

IN an address delivered at the Seventeenth Commencement Exercises of the Woman's Medical College of Philadelphia Professor Florence R. Sabin closed with the following:

"I may say that I do not think that all the problems associated with the practical extension of the full-time scheme to the clinical side have been solved. Adjustments may have to be made, perhaps radical ones, but I profoundly hope that the plan will be given an adequate trial and that it can win the support of those who are teaching in our medical schools, because I believe it of the utmost importance to the community to range the ablest minds in the medical profession on the side of preventive medicine. Besides an occasional school of hygiene and public health we need to have all the leaders of medical education engaged in research to advance medicine. It is my sincere conviction that the opposition to extending the modern standards of professional education to clinical medicine will yield readily to sound constructive leadership on the part of those who desire this reform."

This subject of full-time teachers in medical schools has been under consideration for several years. Prominent practitioners and teachers have discussed the subject from every angle, but without unanimity of opinion. Practically everybody is agreed that the laboratory sciences require full-time teachers, but since medicine is to a considerable extent an art founded on the sciences, one may question whether the clinical teaching may not lose some of its interest if given over to men working full time in hospitals and laboratories. The time may come when Public Health executives may practically eliminate the preventable diseases and the exact sciences may be applied to the cure of a larger number of ills, but at the present time the experience gained from contact with some of the unsolved problems of medicine and the psychic phenomena of diseased persons may equip the teacher for dealing with the student's mind to

some extent not otherwise obtained. The advocates of the full-time teaching service may suggest that men of sufficient ability to warrant selection for such positions have broad minds and warm human instincts and usually understand the difficulties of practice, and hence are fitted to train practitioners, or it may be argued that premedical requirements demand of young persons that degree of moral and intellectual development which is sufficient for the practitioner and will enable him to intelligently use science so far as it may apply and supplement exact knowledge with that personal influence which the art of medicine requires. Leaving these questions out of the argument, one may propound another which may be asked concerning the wishes of the patient as well as his needs. Will the patients feel as well pleased with the ultimate division of medical attendance between two classes, *i.e.*, the purely scientific worker and teacher and the practitioner? And going one step farther, has not the teacher who is also a practitioner, outside of the medical school, often contributed to medicine some things which his colleague, devoted entirely to research teaching and hospital work, has missed?

These are questions worthy of serious consideration and analysis, and will in turn be solved. At present they are debatable.

NEWS ITEMS.

THE MEDICAL PRESS AND CIRCULAR reports the death of Dr. Charles Henry Brooking, who was born April 3, 1822.

PROFESSOR J. J. MACKENZIE, head of the pathological departments of the University of Toronto, died on August 1 at the age of fifty-seven years as a result of infection contracted during his experiment with the pus-forming bacteria.—*Science*, Aug. 11, 1922.

WEEK'S DEATH RATE IN BOSTON.—During the week ending Aug. 12, 1922, the number of deaths reported was 188, against 168 last year, with a rate of 12.83. There were 30 deaths under one year of age, against 31 last year.

The number of cases of principal reportable diseases were: Diphtheria, 42; scarlet fever, 13; measles, 35; whooping cough, 27; typhoid fever, 5; tuberculosis, 52.

Included in the above, were the following cases of non-residents: Diphtheria, 9; scarlet fever, 2; measles, 1; typhoid fever, 1; tuberculosis, 29.

Total deaths from these diseases were: Diphtheria, 3; scarlet fever, 2; whooping cough, 1; tuberculosis, 13.

Included in the above, was the following case of a non-resident: Tuberculosis, 1.

NOTES FROM THE WORCESTER DISTRICT MEDICAL SOCIETY.—Provisional arrangements have

been made for the first meeting of the society, to be held September 13. Dr. George E. Albee of Worcester will read a short paper on "Heart Disease" and will illustrate his paper with lantern slides of electrocardiograms. Dr. S. A. Levine of Peter Bent Brigham Hospital in Boston will open the discussion. The meeting will be held in the rooms of the University Club, on Main Street.

Dr. Perley Comey of Augusta, Ga., formerly a president of the Worcester District Medical Society, has opened an office for the summer in his old home on Lincoln Street, Worcester.

During the war arrangements were made by the Worcester District Medical Society to co-operate with the police in the event of any great catastrophe. The names of members who would respond to call were taken and placed on file at the telephone exchange. Fortunately no occasion to test out these arrangements had arisen until the wreck of the Berkshire Express at Putnam Lane, August 8. At the first it looked as if many people must have been injured, and the emergency call was sent out for physicians. The plan worked out during the war showed its value when between 30 and 40 physicians responded, ready to render aid.

Dr. G. W. WILLIAMSON of Grand Forks, S. D., has been visiting the hospitals and other places of interest in and about Boston.

BEVERLY HOSPITAL.—The regular monthly demonstration clinic was held at the Beverly Hospital, Aug. 15, 1922. Doctors were present from Beverly, Danvers, Hamilton, Topsfield, Lynn, Swampscott, Manchester and Beverly Farms. The following cases were shown and discussed: Carcinoma of Right Breast; Epithelioma of Right Submaxillary Gland; Acute Retention of Urine; Acute Appendicitis—General Peritonitis; Chronic Cholecystitis with Stones in Gall-Bladder, Cystic and Common Ducts; Acute Suppurative Cholecystitis—Acute Hemorrhagic Pancreatitis; Chronic Cholecystitis with Stones—Chronic Pancreatitis; Chronic Appendicitis—Chronic Cholecystitis with Stones; X-rays and Specimens.

A. EVERETT AUSTIN, M.D., announces his removal from 144 Commonwealth Avenue to the Professional Building, 270 Commonwealth Avenue (at Gloucester Street, near Massachusetts Station).

Miscellany.

AN IMPRESSIVE STATEMENT.

THE *Buffalo Sanitary Bulletin*, under date of July 31, 1922, announces under the heading "A Cure for Polio" that Dr. Edward C. Rosenow, Professor of Experimental Bacteriology of the

Mayo Foundation, claims that he has proven "the most successful" treatment for acute anterior poliomyelitis. The statement in the *Bulletin* is as follows:

Dr. Rosenow demonstrated that the serum of a horse, which had been immunized with streptococci isolated from the central nervous system of monkeys paralyzed with virus, had the power to neutralize virus *in vitro*, and to prevent poliomyelitis in monkeys following intracerebral inoculation of active virus. Moreover, this serum appeared to have a curative effect in the experimental disease in monkeys after the symptoms had begun.

Opportunities to test this serum were found during the epidemic in Davenport, Iowa, in 1917, and Dubuque, Iowa, in 1918, and have been used since in sporadic cases by physicians in various parts of the United States.

A summary of results showed that of 60 patients in whom this serum treatment was begun early, every one recovered without paralysis; of 61 patients with slight paralysis at the time of serum treatment, all but one recovered without residual paralysis; of 123 patients with advanced paralysis at the time of serum treatment, 18 died; 30 recovered from residual paralysis; 61 made complete recovery; while the results of the remainder are unknown.

Dr. Rosenow states:

"The conclusions that my Immune Horse Serum, prepared by repeated injections of increasing doses of freshly isolated strains of the pleomorphic streptococcus, has curative power in poliomyelitis, especially when given in the early stage of the disease, is warranted. Its general use in the treatment of this dread disease is indicated, and the need for early diagnosis in suspicious cases by spinal puncture is again emphasized."

Our State Department of Health and the New York Department of Health maintain a conservative attitude toward claims of benefits following serum treatment of acute anterior poliomyelitis, and the United States Public Health Service has not licensed the product advocated by Dr. Rosenow. The Massachusetts Department of Health has on file telegrams relating to this subject from the United States Public Health Service and the New York Board of Health, received within a few days. Further developments will be watched with interest.

DR. J. LEO HANSON'S APPLICATION FOR HOSPITAL LICENSE REFUSED.

THE daily papers report that the citizens of West Dennis have declined to issue a permit to Dr. Hanson for the maintenance of a hospital. One paper alleged that the "transplantation of a bull gland" by Dr. Hanson caused the death of a sixteen-year-old boy. There seems to be a strong adverse sentiment toward Dr. Hanson and his methods, for a public meeting was held

and, according to the reporter for the *Boston Post*, 81 voted against Dr. Hanson's plan for a hospital and only seven were in favor. The meeting was attended by so many who took this opportunity to voice protests that it lasted until nearly midnight.

Dr. Hanson is a graduate of the Philadelphia College of Osteopathy and the Middlesex College of Medicine and Surgery located in Cambridge. Gland therapy has not been a distinctive feature of the practice of osteopathy, so that one may infer that either Dr. Hanson is departing from the practice of his first interest or is planning to supplement the methods of the osteopathic practitioner with treatments about which controversy has been spirited.

A NEW STAR IN THE MEDICAL FIRMAMENT.

ACCORDING to the *New York Times* a doctor in Munich by the use of the iriscope has told the medical history of patients to the minutest detail. He claims that the iris records injuries and diseases with unfailing accuracy. No questions are asked during the examination. In given cases the doctor found that the persons under examination had used alcohol or had had various injuries, which were located. In one instance he asserted that the patient had lost a finger. The patient remembered having cut the finger severely in an automobile accident and "what was left of the finger was sewed on and has done well."

The reporter suggests that if one decides to visit the doctor that he had better go alone. The iriscope is no place for company if you have anything which you wish concealed, for "The worst discovery of the century has come."

CONSERVATION OF VISION.

THE Eye Sight Conservation Council of America, as a result of various inquiries and requests, is establishing a special mailing list of those who wish to receive material of service to lecturers and writers on the subject of conservation of vision.

There is need throughout the nation for lecturers who will appear before local organizations and address such organizations as Rotarian and Kiwanis clubs, mothers and parent teachers' associations, chambers of commerce, merchants' associations, schools, colleges, etc., to present the important subject of eye care and the great need of conservation of vision.

Any who are interested in this work should write direct to the Eye Sight Conservation Council, Times Building, New York City, requesting that their name be entered on a special list of those to receive data and material which will be prepared and issued periodically.

RECENTLY ESTABLISHED SCHOOL OF GRADUATE TEACHING OF DISEASES OF THE NERVOUS SYSTEM.

UNDER the title of The Post-Graduate School of Neurology and Psychiatry of the District of Columbia, a school for the graduate teaching of diseases of the nervous system has been recently organized in Washington, and will open formally in October. Dr. Wm. A. White, Superintendent of St. Elizabeth's Hospital, is President of the institution; Dr. Tom A. Williams, Vice-President; Dr. D. Percy Hickling, Dean of the faculty; and Dr. Daniel D. V. Stuart, Jr., Secretary-Treasurer. Two courses of study, elementary and advanced, of six weeks each, are to be offered, together with an elective course in special subjects.

EXCERPTS FROM THE INFORMATION SERVICE OF THE ROCKEFELLER FOUNDATION.

PARTS of the annual report of the General Director of the International Health Board of the Rockefeller Foundation, made public recently in advance of the general distribution of the volume, show that during 1921 the Board shared in the governmental activities for war on preventable disease in sixty-three states and countries throughout the world.

The activities reported include campaigns against yellow fever in Mexico and South America; field experiments and operations in malaria control; world-wide efforts in the relief and control of hookworm disease; the promotion of county health work in the United States; the improvement of public health laboratory service in various countries; the development of schools of hygiene; and fellowships offered by the Board in hygiene and public health.

PROMOTING COUNTY HEALTH WORK.

"For reasons which are well understood, public health effort has been centered mainly on the larger towns and cities. Health protection for the people living in the country districts has been neglected. The tide is turning. The development of county health organization—which is now going forward with considerable momentum in the United States—is providing a service for the smaller towns and rural communities."

"In the Southern States county health administration developed naturally and inevitably from the effort to control hookworm disease. This is a rural disease; its control is a problem in rural sanitation; a serious effort to handle this one problem in rural sanitation called into being county organization. County organization once established, control of hookworm disease became merely an item in a general health

program under state and county administration. The demonstration thus given of the value of the county as a unit in the state scheme stimulated a movement which is becoming general. At the close of the year county programs on a full-time basis were in operation in about 192 counties in the United States."

"The plan of work pursued by the county health department has been evolved from experience, is applicable under a wide variety of conditions and has stood the test of time. Though there are minor differences to meet local conditions, the most important activities, which are more or less common to all the units, group themselves under the following main heads: (1) public health education; (2) sanitation; (3) control of communicable diseases; (4) adult and child hygiene. The demonstrations are so planned as to enable any county to undertake at the start in a small way and with the least expenditure of money, the line or lines of work which for that particular county give promise of yielding the greatest results in lives saved and sickness prevented. Other activities are added and the health department is expanded as the work proves effective and additional funds are provided.

"Public health nurses are being employed in increasing numbers. They furnish a close bond of contact between the health staff and the people. When a case of communicable disease is quarantined they visit the home and give advice as to the methods to be followed in caring for the patient and in preventing the spread of the disease to other members of the family or to the community; when children are found to be suffering from defects they consult with the parents and urge them to have the defects promptly corrected; and they render valuable assistance to the health officer in the organization and conduct of clinics, in securing the co-operation of established welfare agencies, and in carrying out the general program of health education and community development.

"In the development of county health work the Board has been serviceable in providing funds for initial demonstrations. Its contributions have stimulated appropriations by counties and legislatures; and the demonstrations thus supported are creating a sustaining public sentiment. The state and county appropriations usually show wholesome growth from year to year, and are seldom reduced even in the face of the severe economic depression that has necessitated curtailment of many useful forms of service."

EXCERPTS FROM THE BI-WEEKLY SUMMARY NATIONAL HEALTH LEGISLATION AS PUBLISHED BY THE NATIONAL HEALTH COUNCIL.

New Hospitals for Disabled War Veterans.—Director Forbes of the U. S. Veterans' Bureau

has announced that in accordance with the appropriation act providing \$17,500,000 in funds for new hospital sites he has recommended to the President a hospital at St. Cloud, Minn., to cost \$1,000,000, with facilities for between 250 and 350 beds for mental cases. This has received the President's approval. Another recommendation not yet approved is for a hospital at either San Diego or Los Angeles, California.

Assistant Secretary of the Treasury Clifford has announced that the appropriation of \$18,000,000 of last year authorizing hospitals to be constructed under the authority of the Treasury Department has been expended and that a total of 4,051 beds has been supplied by building additions to Government hospitals and by the construction of twelve new institutions. These hospitals include facilities for the care of disabled veterans suffering with tuberculosis and mental diseases, surgical cases and general cases.

Government Reorganization.—During a recent visit by Dr. D. B. Armstrong, executive officer of the National Health Council, with Brig. Gen. C. E. Sawyer, the latter stated that the plans for a Department of Welfare were still under consideration and that the whole Government Reorganization scheme would be taken up after Congress had gotten such items as the Tariff, Bonus, and Ship Subsidy out of the way. It is not deemed likely that the reorganization will be taken up at this session, even if the plan were entirely agreed upon, which is not considered to be the case among observers in Washington.

New Legislation.—B. 1. Amendment to Constitution Empowering Congress to Regulate Child Labor. S. J. Res. 224. Introduced by Senator Townsend, July 14, 1922. Referred to the Committee on the Judiciary. This amendment to the Constitution provides that Congress may regulate the employment and the hours of labor and conditions of employment of persons under eighteen years of age.

THE NEW YORK DAVENPORT BILL.

IN introducing this bill, which afterward became a law, State Senator Frederick M. Davenport, one of the proponents of this measure, said:

"This is a bill to establish a division of maternity, infancy and child hygiene in the State Department of Health. It is designed to accomplish under state auspices, state rules, and with state funds everything of value and more which is contemplated in the alternative plan of matching the funds of the federal government with other funds of the state government under the so-called Sheppard-Towner maternity act of the national Congress.

"The state of New York, if this measure is enacted into law, formally repudiates the growing tendency of the national government to

enroach in a subtle fashion upon the functions and activities of the states. It is not denied that in matters affecting, for example, post roads and interstate commerce, the federal government is within its rights in leading the way toward better policies of national welfare. But this is a boundary which ought not lightly to be passed. And it is very doubtful whether constitutionally it can be passed. A policy which drags the state governments at the chariot wheels of the national government in a constantly increasing number of matching proposals and multiplying functions and expenditure, is fraught with ultimate disaster not only to the states but to the national government itself.

"The most certain way to keep the national government strong and vital is to protect it from too much functioning. One great danger in Washington today is that the national government may cave in under its overwhelming activities. Everything that the states can do for themselves, everything which fosters local self-government, contributes to the normal functioning and power of the national government as much as it does to the preservation of the rights and responsibilities of the states.—Excerpts from *Health Notes*, New York State Department of Health.

FOREIGNERS AS ASSISTANTS IN ITALIAN CLINICS.

On the initiative of the Italian League for the Protection of National Interests, the Faculty of Medicine of the University of Rome has granted foreign physicians the privilege of entering the Medical and Surgical Clinics of the University of Rome in the capacity of assistants without salary—a measure which has been adopted with marked success by the universities of France.

These Roman Clinics are under the direction of the greatest Italian physicians and surgeons.

The following places are available for the next academic year, which begins in the first week of November:

- 2 places in the Surgical Clinic.
- 2 places in the Medical Clinic.
- 2 places in the Obstetrical Clinic.
- 2 places in the Dermosyphilopathie Clinic.
- 2 places in the Clinic for Mental and Nervous Diseases.

1 place in the Orthopaedic Clinic.

Foreign physicians are admitted also to the numerous finishing courses offered by the Medical Faculty of Rome.

Applications may be addressed to the President of the Faculty of Medicine of the University of Rome, accompanied by a certificate of graduation and favorable recommendation from the president of the applicant's medical school.

Applications with documents will be received also by the Italian League for the Protection of National Interests—(Lega Italiana per La

Tutela degli Interessi Nazionali) Roma (8) Corso Umberto Primo No. 101, which will furnish all required information.—Institute of International Education, Stephen P. Duggan, Director.

EXHIBIT SHOWING ADVANCES IN SANITARY SCIENCE.

THE National Committee on Exhibits Showing Advances in Sanitary Science has recently been formed in Washington, D. C., for the purpose of collecting and preparing material for a great popular public health exhibit in the capital. The members of the committee include Surgeon-General H. S. Cumming, United States Public Health Service, chairman; Dr. D. B. Armstrong, National Health Council; Miss Mabel T. Boardman, American Red Cross; Surgeon-General M. W. Ireland, United States Army Medical Corps; Dr. Victor C. Vaughan, National Research Council; Dr. C. D. Walcott, Smithsonian Institution; James A. Tobey, National Health Council, secretary.

Space for the proposed exhibit has been placed at the disposal of the committee by the Smithsonian Institution. This Institution is visited by more than half a million persons annually. Plans are under way to install exhibit material secured from official and voluntary health agencies. The secretary's office is in the national headquarters of the American Red Cross at Washington, D. C.—*Public Health Reports*, U. S. P. H. Service.

SQUILL EFFECTIVE AS A RAT POISON.

MANY observers abroad are of the opinion that fluid extract of squills is a most efficient rat poison. It is claimed that it has thrice the toxic effect of barium carbonate and is relatively harmless to other animals and birds. It is cheap, and, since it creates great thirst, the poisoned rodents die in the open. It is prepared by macerating freshly purchased bulbs of *Urginea maritima* with alcohol 1:5 for six days and then expressed through a cloth. The baits are prepared by soaking small pieces of bread in the fluid extract. Poisoned animals are dead by the second day.—*The Nation's Health*.

ANTISCORBUTIC VITAMIN IN COW'S AND GOAT'S MILK.

C. H. HUNT and A. R. WINTER report experiments made upon guinea pigs to determine the relative value of cow's and goat's milk in the production of vitamin C. Ten c.c. of cow's milk, fed daily, did not seem to have the same protective power as an equal amount of goat's milk, but when the amount of cow's milk was increased to 30 c.c. or more daily no difference was noted. This report was published in *Science*, July 28, 1922.

ARTICLES ACCEPTED BY THE COUNCIL
ON PHARMACY AND CHEMISTRY.

During July the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in the New and Non-official Remedies:

The Abbott Laboratories: Neocinchophen-Abbott Tablets, 5 grains; Louis Hoos: Hoos Albumin Milk; Mallinekrodt Chemical Works: Benzyl Benzoate-M.C.W.

LOWER DEATH RATES.

THE Metropolitan Life Insurance Company reports that the death rates among the policyholders for the first half of 1922 show a drop from 10.3 per 100,000 in the first six months of 1921 to 8.1 for the corresponding period this year. The tuberculosis rate was 13 per cent. lower, the diphtheria rate was 23 per cent. lower, and the puerperal septicaemia rate dropped from 10.3 to 8.1. These figures may reflect a more general knowledge of health problems on the part of the people in addition to cooperation of physicians and health officials.

HOOK WORM INFECTION AND HOOK
WORM DISEASE.

Dr. J. A. HAYNE of Columbia, S. C., in discussing a paper on health work said: "The person carrying around a few hook worms in the intestinal canal is not particularly annoyed by them, but if he has a great many that are really sapping his vitality then he develops hook worm disease. * * * In a certain university 70 per cent. of the students were infected with hook worm, yet they went into a football game with no difficulty."

Dr. Hayne has observed hook worm in Panama as well as in South Carolina.

A REMARKABLE MEDICAL MEETING.

Dr. GEORGE W. PAYNE, secretary of the Carlisle County Medical Society, Kentucky, reports that the meeting of this society June 6, 1922, was attended by every doctor in the county. Every paper on the program was read and every doctor joined in the discussion.

THE FIFTEENTH ANNUAL CHRISTMAS
SEAL SALE.

The National Tuberculosis Association has begun its campaign for the next Christmas Seal sale. Five different styles of advertising material, stories and articles on various phases of tuberculosis health problems are described in

the circular which is being sent out by Philip B. Jacobs, the publicity director.

The great outstanding argument of the saving of 100,000 lives each year, with the conservation of a vast amount of productive energy, will be the especial feature of the campaign.

Dr. LAWRAISON BROWN is the president and Dr. Charles J. Hatfield the managing director, and there are about 90 directors, representing all sections of the country.

Obituary.

WILLIAM TURELL LEARNED, M.D.

DR. WILLIAM T. LEARNED, a well-known general practitioner of Fall River, died at his home in that city, Aug. 14, 1922, of angina pectoris, after an illness of two days.

The son of the late Ebenezer T. and Mary White Learned, he was born in Fall River, March 24, 1861. His early education was in the public schools of his native city, then going to Brown University, where he received an A.B. in the class of 1882. Three years later he took his M.D. at the University of Pennsylvania, settled in practice in Fall River, joining the State Medical Society in 1887. In 1889 he married Frances H. Elmer of Bridgeton, N. J., one son, Dr. Elmer T. Learned, practises in Fall River, another son and a daughter live in the same city.

Dr. Learned had been surgeon to the Union Hospital, consulting physician to the City Hospital, senior physician to the Truesdale Hospital; a member of the American Medical Association, the Quequechan and Country Clubs, and at one time active in King Philip lodge of Mosons. In 1907 he was vice-president of the Bristol South District Medical Society and in 1908 its president.

A retiring man, he avoided public office. His ideals were high as regards the practice of his profession, carrying into the sick chamber the best ethical standards. A large circle will mourn his loss.

Correspondence.

ATTITUDE OF THE STATE TOWARD THE
DRUG ADDICT.

Mr. Editor:

I am requested by Dr. Kline to call your attention to editorial on page 751 "The Attitude of the State Toward the Drug Addict" in your journal of June 1, 1922, Vol. 186, No. 22. Enclosed you will find a copy of Chapter 535, Section 4 being marked. This chapter was approved June 13, 1922.

Very truly yours,

RANSOM A. GREENE.

Assistant to the Commissioner, Department of Mental Diseases.

[Chap. 535.]

AN ACT RELATIVE TO CERTAIN PENALTIES FOR THE VIOLATION OF CERTAIN LAWS RELATING TO NARCOTIC DRUGS AND TO COMMITMENTS OF DRUG ADDICTS AND DRUG-MANIACS.

Be it enacted, etc., as follows:

SECTION 1. Chapter ninety-four of the General Laws is hereby amended by striking out section two hundred and nine and inserting in place thereof the following:—*Section 209.* No person, not being a physician, dentist, nurse or veterinarian registered under the laws of this commonwealth or of the state where he resides, or a registered embalmer, manufacturer or dealer in embalming supplies, wholesale druggist, manufacturing pharmacist, registered pharmacist, manufacturer of surgical instruments, official of any government having possession of the articles hereinafter mentioned by reason of his official duties, nurse acting under the direction of a physician, employee of an incorporated hospital acting under the direction of its superintendent or officer in immediate charge, or a carrier or messenger engaged in the transportation of such articles, shall have in his possession a hypodermic syringe, hypodermic needle, or any instrument adapted for the use of narcotic drugs by subcutaneous injection. No such syringe, needle or instrument shall be delivered or sold to, or exchanged with, any person except a registered pharmacist, physician, dentist, veterinarian, registered embalmer, manufacturer or dealer in embalming supplies, wholesale druggist, manufacturing pharmacist, nurse upon the written order of a physician, or an employee of an incorporated hospital upon the written order of its superintendent or officer in immediate charge. A record shall be kept by the person selling such syringe, needle or instrument, which shall give the date of the sale, the name and address of the purchaser and a description of the instrument. This record shall at all times be open to inspection by the department of public health, the boards of registration in medicine, veterinary medicine, and pharmacy and the board of dental examiners, authorized agents of said department and boards, and police authorities and police officers of towns. Whoever violates any provision of this section shall be punished by a fine of not more than one hundred dollars or by imprisonment in a jail or house of correction for not more than two years, or both.

SECTION 2. Section two hundred and ten of said chapter ninety-four is hereby amended by striking out, in the fifth and sixth lines, the words "a fine of not more than one hundred dollars or by imprisonment for not more than one year", and inserting in place thereof the words:—"imprisonment for not less than three months nor more than two years,—so as to read as follows:—*Section 210.* Each building, place or tenement which is resorted to by habitual users of narcotic drugs for the purpose of using such drugs, or which is used for the illegal keeping or sale of the same, shall be deemed a common nuisance. Whoever keeps or maintains such a common nuisance shall be punished by imprisonment for not less than three months nor more than two years.

SECTION 3. Said chapter ninety-four is hereby further amended by striking out section two hundred and twelve and inserting in place thereof the following:—*Section 212.* Whoever has in his possession a narcotic drug with intent unlawfully to sell and deliver or to exchange such drug, or any part thereof, or whoever unlawfully sells, furnishes, gives, delivers or exchanges any narcotic drug in violation of any provision of sections one hundred and ninety-eight to two hundred and thirteen, inclusive, shall be punished by imprisonment in the state prison for not more than five years, or in a jail or house of correction for not less than one year nor more than two and one-half years.

SECTION 4. Section sixty-two of chapter one hundred and twenty-three of the General Laws is hereby amended by striking out, in the second and third lines,

the words "the Norfolk state hospital", and inserting in place thereof the words:—"the state farm, or to any other institution under the department of correction that may be designated by the governor,—so as to read as follows:—*Section 62.* Any of the Judges named in section fifty, or a judge of the municipal court of the city of Boston, may commit to the state farm, or to any other institution under the department of correction that may be designated by the governor, to the McLean hospital, or to a private licensed institution, by an order of commitment, directed to the trustees, superintendent, or manager thereof, as the case may be made, in accordance with section fifty-one, accompanied by a certificate, in accordance with section fifty-three, by two physicians qualified as therein provided, any male or female person, who is subject to dipsomania or inebriety either in public or private, or who is so addicted to the intemperate use of narcotics or stimulants as to have lost the power of self-control. The judge receiving the application for such commitment shall examine on oath the applicant and all other witnesses, and shall reduce the application to writing and cause it to be subscribed and sworn to by the applicant. He shall cause a summons and copy of the application to be served upon such person in the manner provided by section twenty-five of chapter two hundred and seventy-six. Such person shall be entitled to a hearing unless after receiving said summons he shall in writing waive a hearing, in which case the judge may issue an order for his immediate commitment as aforesaid, without a hearing, if he is of opinion that the person is a proper subject for custody and treatment in the institution to which he is committed. The commitment may be made forthwith, if the examining physicians certify the case to be one of emergency. A person committed as aforesaid may be detained for two years after the date of his commitment, and no longer.

SECTION 5. Said chapter one hundred and twenty-three is hereby further amended by striking out section eighty and inserting in place thereof the following:—*Section 80.* The superintendent or manager of any institution to which commitments may be made under section sixty-two may, when requested by a physician, by a member of the board of health or a police officer of a town, by an agent of the institutions registration department of Boston, by a member of the state police, or by the wife, husband, guardian or, in the case of an unmarried person having no guardian, by the next of kin, receive and care for in such institution, as a patient for a period not exceeding fifteen days, any person needing immediate cure and treatment because he has become so addicted to the intemperate use of narcotics or stimulants that he has lost the power of self-control. Such request for the admission of a patient shall be made in writing and filed at the institution at the time of his reception, or within twenty-four hours thereafter, together with a statement, in a form prescribed by the department having supervision of the institution, giving such information as it deems appropriate. The trustees, superintendent or manager of such institutions shall cause to be kept a local record, in such form as the department having supervision of the institution requires of each case treated therein, which shall at all times be open to the inspection of such department and its agents. Such record shall not be a public record, nor shall the same be received as evidence in any legal proceeding. The superintendent or manager of such an institution shall not detain any person received as above for more than fifteen days, unless, before the expiration of that period, such person has been committed under section sixty-two, or has signed a request to remain at said institution under section eighty-six.

SECTION 6. Section eighty-nine of said chapter one hundred and twenty-three is hereby amended by inserting after the word "hospital" in the third line the words:—"or of any institution to which commitments may be made under section sixty-two,—by inserting

after the word "department" in the fourth line the words:—having supervision of the institution,—by striking out, in the seventh line, the words "supreme judicial," and inserting in place thereof the word:—superior,—and by inserting after the word "department" in the eighth line the words:—having supervision,—so as to read as follows:—*Section 89.* The superintendent or manager of a private institution described in section three, the superintendent of a state hospital and of the McLean hospital, or of any institution to which commitments may be made under section sixty-two, when authorized thereto by the trustees of such institution, the trustees themselves, the department having supervision of the institution, or, on written application, a judge of probate for the county where the institution is situated, or where the inmate had his residence at the time of his commitment or admission, or a justice of the superior court in any county, after such notice as the said superintendent, manager, trustees, department having supervision, judge or justice, may consider reasonable and proper, may discharge any inmate if it appears upon examination that he will be sufficiently provided for by himself, his guardian, relatives or friends, or that his detention in such institution is no longer necessary for his own welfare or the safety of the public. If the legal or natural guardian of any relative of an inmate opposes such discharge, it shall not be made without written notice having been given to the person opposing such discharge. This section shall not apply to persons committed by a court under any provision of sections one hundred to one hundred and five, inclusive.

SECTION 7. Chapter one hundred and twenty-three, as amended in section one hundred and thirteen by section one of chapter two hundred and seventy of the acts of nineteen hundred and twenty-one, is hereby further amended by striking out said section one hundred and thirteen and inserting in place thereof the following:—*Section 113.* At any time prior to the final disposition of a case in which the court might commit an offender to the state prison, the reformatory for women, any jail or house of correction, the Massachusetts reformatory, the state farm, the industrial school for boys, the industrial school for girls, the Lyman school, any county training school, or to the custody of the department of public welfare, for any offence not punishable by death or imprisonment for life, a district attorney, probation officer or officer of the department of correction, public welfare or mental diseases may file in court an application for the commitment of the defendant in such a case to a department for defective delinquents established under sections one hundred and seventeen and one hundred and twenty-four, or to a department for the care and treatment of drug addicts, established by the governor and council under authority of said sections. On the filing of such application the court may continue the original case from time to time to await disposition thereof. If, on a hearing thereon, it appears that the defendant, within a period of three years, has been found guilty of an offence for which he might have been committed to any institution above named or to the custody of the department of public welfare, or that he has been adjudged a juvenile delinquent, and that he is mentally defective, or addicted to the intemperate use of stimulants or narcotics, and is not a proper subject for the schools for the feeble-minded or for commitment as an insane person, the court may commit him to such department for defective delinquents, or to such a department for the care and treatment of drug addicts, as the case may be, according to his age and sex, as hereinafter provided.

SECTION 8. Said chapter one hundred and twenty-three is hereby further amended by striking out section one hundred and fourteen and inserting in place thereof the following:—*Section 114.* If an offender while under commitment to any of the institutions named in the preceding section or to the department of public welfare persistently violates the regulations

of the institution or department in whose custody he is, or conducts himself so indecently or immorally, or otherwise so grossly misbehaves as to render himself an unfit subject for retention in said institution or by said department, and it appears that such offender is mentally defective or addicted to the intemperate use of stimulants or narcotics, and is not a proper subject for a school for the feeble-minded, a physician in attendance at any institution named in the preceding section or a physician employed by said department shall make a report thereof to the officer in charge of said institution or to the director of child guardianship, who shall transmit the same to one of the judges mentioned in section fifty. The judge shall make inquiry into the facts and, if satisfied that the offender is mentally defective or so addicted, and not a proper subject for a school for the feeble-minded, shall order his removal to a department for defective delinquents or to a department for the care and treatment of drug addicts, as the case may be, according to his age and sex as hereinafter provided.

SECTION 9. Said chapter one hundred and twenty-three is hereby further amended by striking out section one hundred and fifteen and inserting in place thereof the following:—*Section 115.* No person shall be committed to a department for defective delinquents or to a department for the care and treatment of drug addicts under either of the two preceding sections unless there has been filed with the judge a certificate by two physicians qualified as provided in section fifty-three that such person is mentally defective or is addicted to the intemperate use of stimulants or narcotics. The fees of the certifying physician shall be of the amount and paid in the manner provided for like service in sections three to one hundred and twelve, inclusive.

SECTION 10. Said chapter one hundred and twenty-three, as amended in section one hundred and seventeen by section two of chapter two hundred and seventy of the acts of nineteen hundred and twenty-one, is hereby further amended by striking out said section one hundred and seventeen and inserting in place thereof the following:—*Section 117.* At the Massachusetts reformatory, the state farm or such other place or places as may hereafter be approved by the governor and council, there may be maintained departments to be termed departments for defective delinquents, for the custody of persons committed thereto under sections one hundred and thirteen to one hundred and sixteen, inclusive. At any state institution under the supervision of the department of correction, there may be established and maintained, with the approval of the governor and council, departments to be termed departments for drug addicts, for the care and treatment of persons addicted to the intemperate use of stimulants or narcotics and committed thereto under said sections. All men and boys so committed shall be committed to departments for male defective delinquents or for male drug addicts, as the case may be. All women and girls so committed shall be committed to departments for female defective delinquents or for female drug addicts as the case may be. All such persons committed to departments for defective delinquents or for drug addicts at any institution under control of the department of correction shall be and remain in the custody of the said department until discharged as hereinafter provided.

SECTION 11. Section one hundred and eighteen of said chapter one hundred and twenty-three is hereby amended by inserting after the word "delinquents" in the second line the words:—or drug addicts,—so as to read as follows:—*Section 118.* The board of parole of the department of correction may parole inmates of the departments for defective delinquents or drug addicts on such conditions as it deems best, and may at any time during the parole period recall to the institution any inmate paroled.

SECTION 12. Section one hundred and nineteen of said chapter one hundred and twenty-three is hereby amended by inserting after the word "delinquents,"

in the second line the words:—or a department for drug addicts,—and by inserting after the word "delinquents," in the twenty-fourth line, the words:—or to a department for drug addicts, as the case may be,—so as to read as follows:—*Section 119.* Any person may apply at any time to the justice of the district court in whose jurisdiction a department for defective delinquents or a department for drug addicts is located, for the discharge of any inmate of said department. A hearing shall thereupon be held, of which notice shall be given to the applicant and to the person in charge of the institution where the inmate is confined. If after the hearing the justice shall find that it is probable that the inmate can be allowed to be at large without serious injury to himself, or damage or injury or annoyance to others, he may order the person having custody of said inmate to parole him. Further action on the application for the inmate's discharge shall be suspended for one year from the date of his parole. If, at any time prior to the expiration of said year, the justice of the court where the application was filed shall be satisfied that the best interests of said inmate, or of the public, require the recall of the inmate from parole, he may authorize the person having custody of the inmate to so recall him. If an application is denied, a new application shall not be made within one year after the date of the order denying the previous application. If at the end of said year the justice shall find that said inmate can be allowed to be permanently at large without serious injury to himself, or damage or injury or annoyance to others, he may order the person having custody of said inmate to discharge him. If a person discharged under this section is found by any court to have committed, after his discharge, any offence against the laws of the commonwealth, said court may commit such person to a department for defective delinquents or to a department for drug addicts, as the case may be, without the certificate of any physician.

Section 123. Section one hundred and twenty-four of said chapter one hundred and twenty-three is hereby amended by adding at the end thereof the words:—or for the care and treatment of drug addicts, as the case may be,—so as to read as follows:—*Section 124.* Sections one hundred and thirteen to one hundred and twenty-four, inclusive, shall take effect as to any of the departments named in section one hundred and seventeen when the same is ready for occupancy. The commissioner of correction shall notify the governor when a department is in a suitable condition to receive inmates; and the governor may then issue his proclamation establishing such department as a place for the custody of defective delinquents or for the care and treatment of drug addicts, as the case may be. [Approved June 13, 1922.]

LIABILITY INSURANCE.

August 9, 1922.

Mr. Editor:

A certain number of inquiries are made in regard to the liability insurance issued by the United States Fidelity and Guarantee Company of Baltimore to those members of the Massachusetts Medical Society who wish to insure under this policy. The policy is numbered PSD-81326 and is dated Nov. 10, 1921. The premium per member is \$21. The wording of the policy is as follows:

1. The Company does hereby agree to indemnify each Assured named in the representations hereof and herein called the Assured, against loss from the liability imposed by law upon the Assured for damages suffered by any person or persons in consequence of any malpractice, error, or mistake; (a) of the Assured in the practice of his profession during the term of this policy; (b) of any assistant of the Assured while assisting the Assured in the administration of

medical or surgical treatment during the said term;

2. The company agrees to defend in the name and on behalf of the Assured any suit brought against the Assured to enforce a claim, whether groundless or not, for damages on account of bodily injuries or death suffered or alleged to have been suffered, by any person or persons in consequence of any malpractice, error or mistake; (a) of the Assured in the practice of his profession during the term of this policy; (b) by any assistant of the Assured while assisting the Assured in the administration of medical or surgical treatment during the said term;

Subject to the following conditions:

Condition No. 1: The Company's liability for loss resulting from one claim or suit is limited to FIVE THOUSAND DOLLARS, and, subject to the same limit for each claim or suit, the Company's total liability under this policy is limited to FIFTEEN THOUSAND DOLLARS. The expenses incurred by the Company in defending any suit, including the interest on any verdict or judgment and any costs taxed against the Assured, will be paid by the Company in addition to the limits expressed above.

Condition No. 2: Any person shall be deemed to be assisting the Assured if such person is a physician, surgeon, dentist or nurse, and is temporarily acting as a substitute for the Assured in an emergency when the Assured cannot act, or during a period in which the Assured is not actively engaged in his professional duties, or if such person is actually assisting the Assured (but not necessarily in the Assured's presence), under the Assured's instructions in the administration, by the Assured, of medical or surgical treatment in a case attended by the Assured.

Condition No. 3. This policy does not cover loss from liability for, or any suit based on error, malpractice or mistake, (1) of the Assured while in any degree whatever under the influence of intoxicants, anaesthetics, or narcotics, (2) of the Assured or any assistant of the Assured in connection with the violation of any law or ordinance, but the Company shall not decline to defend any suit brought against the Assured for damages because such suit is based on an allegation of criminal malpractice; provided that the Company shall not be liable for or on account of, the recovery of damages in any suit.

Condition No. 4: In case the Assured receives notice of any malpractice, error or mistake covered hereunder, or any alleged malpractice, error or mistake, the Assured shall give immediate written notice thereof with the fullest information obtainable at the time to the Company at its Home Office in Baltimore, Maryland, or to the Boston Branch Office of the Company. If any claim is made against the Assured on account of any malpractice, error, or mistake covered hereunder or on account of any alleged malpractice, error or mistake, the Assured shall give like notice thereof with full particulars.

Condition No. 5: If thereafter any suit is brought against the Assured to enforce a claim, the Assured shall immediately forward to the Company at its Home Office or to the Boston Branch Office of the Company, every summons or other process as soon as the same shall have been served on him. The Assured shall at all times render to the Company all co-operation and assistance within his power.

Condition No. 6: No claim covered by this policy shall be settled or compromised by the Company without the consent of the individual member against whom claim is brought. If said member is in doubt as to the advisability of compromising such a claim brought against him he shall have that privilege of submitting the matter to a committee of members of this group, one to be selected by himself, one to be selected by the Company and three members to be selected by the group. The facts of the case shall be presented to this committee, whose decision is for

the guidance of the member against whom claim has been brought, it being understood and agreed that his right to make the final decision is not thereby surrendered or relinquished.

Condition No. 7: The defence of any suit under this policy by the Company will be continued until a final decision is rendered in the Assured's favor, or until the case has been appealed to the highest court to which an appeal can be taken or until the suit has been settled with the written consent of the Assured.

Condition No. 8: The Assured shall not voluntarily assume any liability; nor incur any expense without the written consent of the Company previously given; nor, except at his own cost, settle any claim; nor, excepting as provided in Condition 6, interfere in any negotiations or legal proceedings conducted by the Company on account of any claim.

Condition No. 9: If the Assured carries a policy of another insurer, valid and collectible, against a loss covered in this policy, the Assured shall not be entitled to recover from the Company a larger proportion of the entire loss than the proportion between the amount of this policy and the total amount of his valid and collectible policies.

Condition No. 10: The interest of an Assured under this policy shall not be assignable to any other person.

Condition No. 11: The termination of the membership of an Assured in the Massachusetts Medical Society shall immediately cancel this policy so far as it applies to such Assured and the Company will return on demand the unearned premium due on account of such cancellation. The failure of an Assured to pay, on or before the date when the same is due, any premium required to keep his policy in force shall on such date cancel this policy so far as it applies to the Assured.

The insurance of any individual Assured may be cancelled at any time by written notice given by the Company to such Assured, accompanied by check for pro rata unearned premium. Notice of cancellation may be given by the Trustee of the contract on behalf of all the Assured under this policy, in case of a majority of such Assured shall file with the Trustee of such group contract written notice instructing him to take such action and the Company's check for any unearned premium mailed to the Trustee shall be a sufficient tender.

A memorandum showing the date of any cancellation will be issued by the Company and mailed to the address of the Assured to whom it applies, and a duplicate of such memorandum shall be mailed to the Trustee of the contract. The date named in such memorandum shall be the date of cancellation of this policy so far as it applies to such Assured named therein.

Condition No. 12: No erasures or change appearing in this policy as originally printed, and no change or waiver of any of its terms or conditions or statements, whether made before or after the date of this policy, shall be valid unless set forth in an indorsement added hereto and signed by the President, the Vice President, or any one of the Secretaries of the Company. Notice given to or the knowledge of any agent or any other person, whether received or acquired before or after the date of this policy shall not be held to waive any of the terms or conditions of this policy or any of the representations in any application therefor. An Assured, by the acceptance of a certificate of insurance based on this policy, agrees that the terms and conditions of said policy embody all agreements then existing between himself and the Company or any of its agents relating to the insurance described herein.

Condition No. 13: The word Assured as used in Condition 4, 5, 6, 7, 8, and 9, shall be deemed to include the Assured's estate.

Condition No. 14: The date of this policy is November 10th, 1921, but the policy period as to each Assured named in the representations or amendments thereof shall commence on noon of the date set opposite the name of such Assured, and shall continue until the policy is cancelled as to such Assured in accordance with provisions of amended Condition No. 10 of this endorsement.

Condition No. 15: In consideration of the reduced rate at which this policy is issued, it is hereby understood and agreed between the members of the Massachusetts Medical Society insured hereunder and the Company, that, in event of any suit under this policy any of the said members insured shall give, when requested, testimony in court or advice on committee as provided in Condition No. 6 of this policy without demanding or receiving any charge or fee therefor from said Company. But this agreement shall not be construed to exclude the payment of any necessary expense incidental to such testimony, which may be incurred by any member.

The above conditions are all attached to and forming part of policy PSD-8126, issued by the United States Fidelity and Guaranty Co. to members of the Massachusetts Medical Society of Massachusetts, dated at Boston, Mass., this 10th day of November, 1921.

The above is countersigned by George H. Crosby, the authorized representative of the Company.

The representations which must be made are these:

(1) I am a member of good standing of the Massachusetts Medical Society and licensed to practice medicine in Massachusetts.

(2) I have not in force and I will not enter into any special written contract or agreement guaranteeing the result of any operation or treatment.

(3) Partner's or Assistant's Name.....

(4) I specialize in

(5) I was born....(day)....(mo.)....(yr.)....

The rates for policies in larger amounts are 5,000-15,000.....\$21; 10,000-30,000.....\$28; 15,000-30,000.....\$31.50.

The original of this policy I hold in my possession.

Yours very truly,

James S. Stone.

BARNSTABLE DISTRICT MEDICAL SOCIETY.

Mr. Editor:

Following is an account of the August meeting of the Barnstable District Medical Society, held at the Barnstable County Infirmary.

A splendid dinner, consisting largely of the products of the Infirmary farm was served under the able management of Mrs. Wagner. The meeting was called to order at two-thirty. Dr. Wagner gave an interesting address on the suppression of tuberculosis in Barnstable County, and the value of co-operation among the fellows. His talk was illustrated by a number of radiographs of cases which were viewed by everyone with great interest.

Dr. Frank Dunbar next addressed the meeting, choosing as his subject, "The Physician and The Laboratory." The need of such an address was clearly felt, and Dr. Dunbar did admirable justice to the subject.

During these speeches Mr. Mearns, the milk inspector, entertained the ladies with a series of tests which are used to determine the purity of milk.

Dr. Russell B. Sprague closed the program with a talk on Public Health work. This final speech has certainly made for a better understanding of his work and its difficulties by the fellows.

The meeting was closed by a standing vote of thanks to Dr. and Mrs. Wagner for their most kind and hospitable treatment of the guests.

Paul P. Henson, M.D.,

Sec. Barnstable District Medical Society.

THE THERAPEUTIC USE OF BLUE LIGHT.

Mr. Editor:

I wish to call attention to the excellent little article by Dr. Romeo on the use of violet ray in the treatment of variola. While not original with him, it is an excellent addition to the proof we have of the value of the use of blue light in the treatment of certain skin lesions.

The point I wish to make is, however, as to the use of the term "violet ray." The doctor uses it correctly, although he might equally well use the term *blue light*. As used by him, it is the rays which we call blue that produce the effects so gratifying to the patients as recorded by him.

The criticism which I would make, and I would do so *with all the emphasis possible*, is the ridiculous and erroneous custom of calling the use of high frequency by means of a vacuum tube "violet rays." The color of the tube when in use is incidental and not fundamental, and depends upon the degree of vacuum to which the tube is exhausted. A low vacuum produces the violet color. Higher vacuum gives shades of red. And still higher, greens similar to the x-ray tubes.

The term should always be used as Dr. Romeo uses it, and not as a synonym for high frequency.

Very truly,

FRANK E. STOWELL, M.D.,
44 Pearl Street, Worcester, Mass.

MASSACHUSETTS DEPARTMENT OF
PUBLIC HEALTH.

REPORTED WEEK ENDING AUGUST 5, 1922.

| Disease | Cases | Disease | Cases |
|------------------------|-------|----------------------------|-------|
| Anterior Poliomyelitis | 11 | Lobar Pneumonia | 22 |
| Chicken-pox | 5 | Scarlet fever | 58 |
| Diphtheria | 98 | Septic sore throat | 5 |
| Dog-bite | 4 | Syphilis | 52 |
| Dysentery | 3 | Suppurative conjunctivitis | 12 |
| German measles | 1 | Tetanus | 1 |
| Gonorrhea | 137 | Tuberculosis, pulmonary | 109 |
| Influenza | 3 | Tuberculosis, other forms | 9 |
| Malaria | 1 | Typhoid fever | 20 |
| Measles | 111 | Whooping cough | 144 |
| Mumps | 23 | Hookworm | 2 |
| Ophthalmia Neonatorum | 12 | | |

WEEK ENDING AUGUST 12, 1922.

| Disease | Cases | Disease | Cases |
|-----------------------------------|-------|----------------------------|-------|
| Anterior poliomyelitis | 12 | Pellagra | 1 |
| Chicken-pox | 25 | Lobar pneumonia | 16 |
| Diphtheria | 105 | Scarlet fever | 37 |
| Dog-bite | 13 | Septic sore throat | — |
| Epidemic cerebrospinal meningitis | 2 | Syphilis | 25 |
| German measles | 4 | Suppurative conjunctivitis | 6 |
| Gonorrhea | 117 | Tuberculosis, pulmonary | 134 |
| Influenza | 1 | Tuberculosis, other forms | 10 |
| Measles | 82 | Typhoid fever | 31 |
| Mumps | 19 | Whooping cough | 82 |
| Ophthalmia neonatorum | 10 | Hookworm | 24 |

REPRINTS.

A few reprints of The Treatment of Diabetes Mellitus, by Elliott P. Joslin (Bos. Med. and Surg. Jour., June 22, 1922), are available and may be procured by applying at this office. Price 50c.

BOSTON MED. AND SURG. JOURNAL,
126 Mass. Ave., Boston.

PUBLIC HEALTH LECTURERS FOR THE
YEAR 1922.

The Committee on Public Health of the Massachusetts Medical Society has been able during the past three years to arrange with well known specialists in various medical fields to give talks at meetings of the District Medical Societies on subjects of interest and importance to all practitioners. It is a pleasure to announce that a similar arrangement has been made this year and that the gentlemen named below are willing, without expense to the District Society, to give occasional talks of thirty to forty minutes on subjects relating to the promotion of public health, extending opportunity for questions and discussion. It is suggested that medical societies consider meeting at neighboring public institutions, since such meetings have been most successful in the past, particularly at the tuberculosis sanatoria and state hospitals for the insane.

José Pentado Bill, M.D., Doctor of Public Health, Specialty: Preventive Medicine.

Frank C. Dunbar, M.D., Bacteriologist, Instructor in Bacteriology and Pathology, Tufts College Medical School. "Methods of Technique in Collecting Specimens."

Walter E. Fernald, M.D., Superintendent, Massachusetts School for the Feeble-minded.

Timothy Leary, M.D., Professor of Pathology, Tufts College Medical School; Medical Examiner, Suffolk County.

Edwin H. Place, M.D., Physician-in-Chief, South Department, Boston City Hospital. Specialty: Contagious Diseases.

C. Morton Smith, M.D., Chief of Department of Syphilis, Massachusetts General Hospital.

George Gilbert Smith, M.D., Assistant in Department of Genito-Urinary Diseases, Massachusetts General Hospital. Specialty: Genito-Urinary Diseases.

Lesley H. Spooner, M.D., on Staff of Out-Patient Department, Massachusetts General Hospital, Specialty: Specific Diagnosis and Treatment of Pneumonia.

William C. Woodward, M.D., Ex-Health Commissioner, City of Boston.

George H. Wright, D.M.D., Lecturer on Dental Hygiene, Harvard Dental School. Specialty: Dental Surgery.

Thomas F. Kenney, M.D., Director of School Hygiene, City of Worcester. Specialty: Full time School Health Officer.

Secretaries of District Medical Societies writing to ask for these lecturers will kindly designate the topic, the place and the hour of meeting as well as the name of the desired speaker, thus eliminating unnecessary correspondence. Please address communications to the Secretary of the Committee, Annie Lee Hamilton, M.D., 164 Longwood Ave., Boston 17.

[Note: The Committee on Public Health feels that this notice may have escaped attention, for few applications have been received. Each lecturer is an authority and would present his subject in an interesting and instructive manner.]